pa PROGRESSIVE ARCHITECTURE

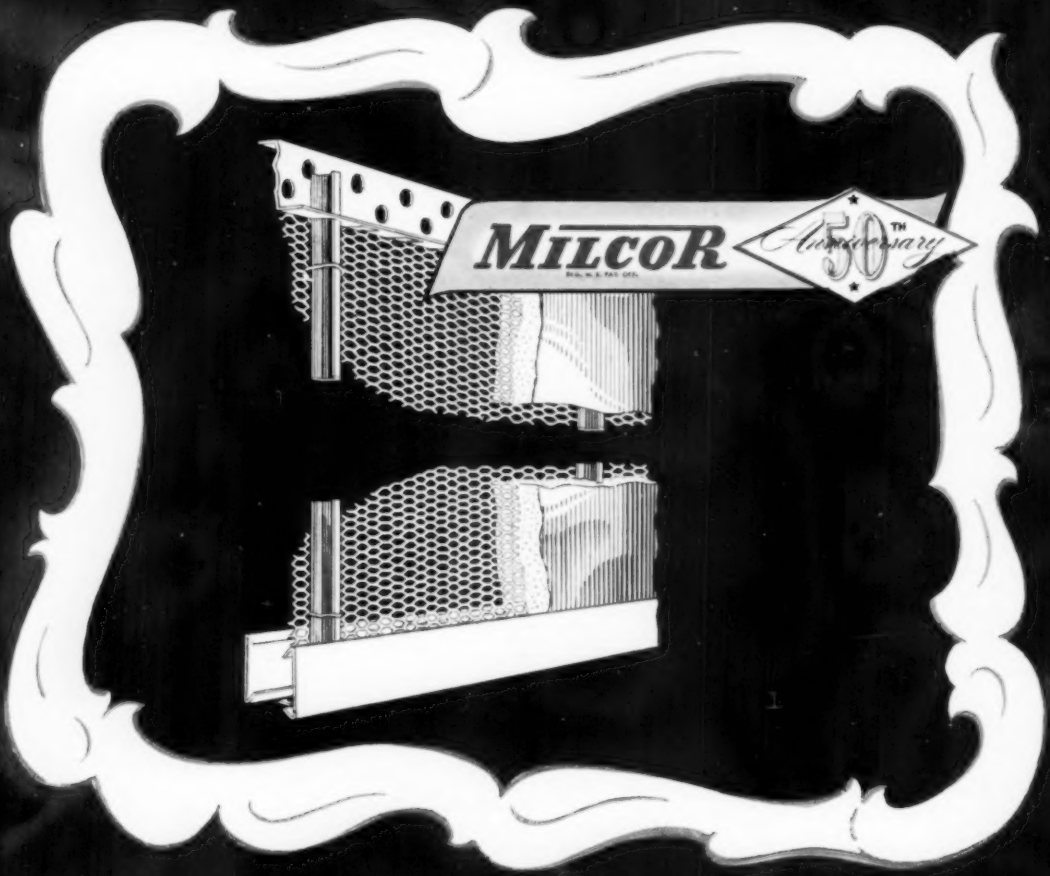
clients for housing

5

may 1952

interior design data

largest architectural circulation in the world



MILCOR® Solid Partition Systems

speed the erection of fire-resistant non-bearing walls

Reinforced monolithic slab construction — The Milcor Solid Partition is a steel-reinforced vertical slab of plaster, 2" thick. Milcor Metal Lath serves as plaster base — reinforces the partition horizontally and diagonally.

Only 3 units needed to support the metal lath — Slotted ceiling runner, standard $\frac{3}{4}$" cold-rolled channels and easy-to-use Milcor Housing Base or slotted floor runners.

Practical advantages — (1) Quick, simple erection; (2) Saving of floor space; (3) One-hour fire rating; (4) Reduced sound transmission; (5) Resistance to impact; (6) Reduced dead floor load; (7) Unexcelled sanitation; (8) Adaptable to metal or wood trim.

Check the branch nearest you regarding deliveries of components for Milcor Solid Partitions.

®Reg. U. S. Pat. Off.

INLAND STEEL PRODUCTS COMPANY

4109 WEST BURNHAM STREET • MILWAUKEE 1, WISCONSIN

BALTIMORE 24, MD. — 5300 Pulaski Highway • BUFFALO 11, N. Y. — 64 Rapin St. • CHICAGO 9, ILL. — 4301 S. Western Blvd. • CINCINNATI 25, OHIO — 3240 Spring Grove Ave. • CLEVELAND 14, OHIO — 1541 E. 38th St. • DETROIT 2, MICH. — 690 Amsterdam Ave. • KANSAS CITY 41, MO. — P. O. Box 918 • LOS ANGELES 58, CALIF. — 4807 E. 49th St. • NEW YORK 17, N. Y. — 230 Park Ave. • ST. LOUIS 10, MO. — 4215 Clayton Ave.

PROGRESSIVE ARCHITECTURE

pa

May 1952

Editorial Staff

Thomas H. Creighton
Editor

Charles Magruder
Managing Editor

George A. Sanderson
Feature Editor

Burton H. Holmes
Technical Editor

Mary Agnes Morel
Associate Editor

Elsie Tupper
Viola S. Kaps
Valeria Butta
Assistant Editors

Stamo Papadaki
Art Director

Elmer A. Bennett
Drafting

Suzanne Sekey
Interior Design Consultant

Executive & Business staff

John G. Belcher
Publisher: Vice President

Frank J. Armeit
Production Manager

John N. Carlin
Circulation Manager

John Y. Cunningham
Promotion Manager

3 **Newsletter**

9 **Views**

15 **Progress Preview: Free University of Berlin Competition**

clients for housing

61 **The Low-Income Tenant** by Catherine Bauer

65 the public authority
Moderate-Rental Housing: Greenwich, Connecticut
Holden, McLaughlin & Associates and Joseph G. Weir, Architects

71 the co-operative group
Detached Houses: Ardsley, New York
Bliss, Freedman, Ginsbern, Glaberson, Johnson, Rubin, Torkelson

79 the speculater

80 **Apartments: Burlington, Vermont**
Whittier & Goodrich, Architects

82 **Apartments: Los Angeles, California**
Carl Louis Maston, Architect

86 **Apartments: Seattle, Washington**
Chiarelli & Kirk, Architects

88 **Builder Housing: Wheaton, Maryland**
Charles M. Goodman Associates, Architects

93 **Crawl Space: Perimeter Heating**
by William J. McGuinness

97 Related Design Fields: **Mexican Sketches**

100 **New Directions in Thermal Insulation: Part I**
by Groff Conklin

105 **Lighting Competition**
National Electrical Manufacturers Association

108 **Products**

110 **Manufacturers' Literature**

interior design data

115 **Kitchen-Dining Areas**

116 **Englewood, New Jersey:** Nemeny & Geller, Architects

118 **North Kingston, Rhode Island:** Conrad E. Green, Architect

120 **Ardsley, New York:** Martin Glaberson, Designer

121 **Sausalito, California:** White & Hermann, Architects

123 **Interior Design Products**

selected details

127 **Residence: Bar**

129 **Apartment: Kitchen**

131 **Apartment: Entrance**

142 **Robert Maillart's Concrete Bridges** by Edgardo Contini

146 **Reviews**

150 **Out of School** by Carl Feiss

170 **It's the Law** by Bernard Tomson

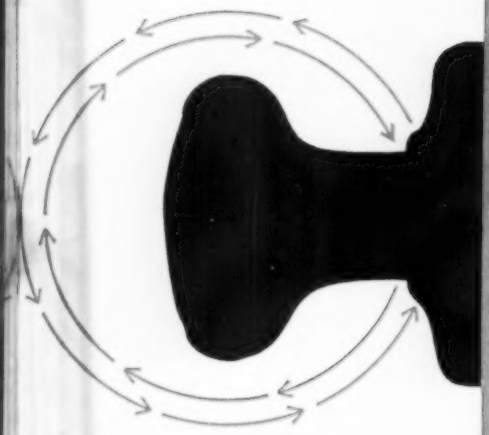
182 **Jobs and Men**

210 **Advertisers' Directory**

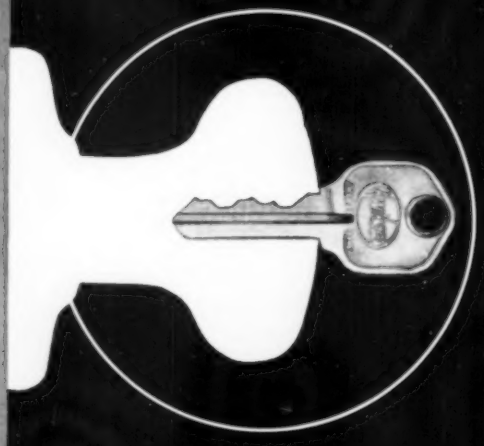
212 **P.S.**

KWIKSET SALES AND SERVICE COMPANY
ANAHEIM, CALIFORNIA

new **kwikset** 450



inside: *always free turning*



outside: *always locked*

Vestibule lockset has a free turning inside knob and an "always locked" outside knob.

When opening the 450 with a key, the vestibule lockset will remain locked when the key is withdrawn.

kwikset LOCKSETS

If it isn't one thing it's another to hold up ready-to-go-ahead projects on architects' and engineers' boards. Now that NPA is definitely giving the green light to commercial projects (and urging more to be planned), the steel wage situation is the excuse for delays. Strike threat may be settled by the time this issue of P/A reaches readers—at writing it is the only delaying factor in many large, badly-needed projects such as shopping centers.

Producers' Council is urging extension of the self-authorization principle to more projects and to greater amounts of steel, copper and aluminum, as a way of relieving the red tape necessary to pass on thousands of comparatively small applications. Now that owners have actually been invited to submit applications, bureaucratic delays may be an important factor unless this is done, says P.C.

On June 30 the Defense Production Act expires, and with it many provisions for rent and wage controls, price, credit and materials controls, and other matters that affect design and construction. Pressures from all sides are becoming heavy on Congress—to relax and allow more "business as usual," and on the other side to keep a tight rein on an economy which is still torn between military production and expanding private needs. This would be a wonderful time to evaluate realistically the present situation and results of controls to date; actually, in an election year, there is probably not much chance for more than expedient solutions.

HHFA is testing on actual defense housing sites seven types of demountable and mobile housing. They include Karl Koch's Acorn House and another which folds, several in which "gable ends" are complete and packaged with sidewall sections, and several that are portable as complete units.

There have been several indications recently that air conditioning for single houses is gaining favor. G.E. reports a 210-unit housing development in Dallas, Texas, where well-designed houses selling for $12,500 use that company's FE-20 conditioner, designed for residential use. A new trade association composed of eleven manufacturers of residential air-conditioning units has been formed as a section of Air Conditioning and Refrigerating Machinery Association. J. A. Gilbreath of Servel is Chairman.

Georgia's new registration law has passed—a great improvement on previous one. Others in the works are not so good, however. This becomes a serious situation which requires study and co-ordination. See Bernard Tomson's column in this issue, and Thomas Creighton's P.S. on the same subject.

A.I.A. has been invited to send observers to New Mexico when new atomic weapons will be tested later on in the year. Representatives who will attempt to evaluate structural lessons to be drawn from the tests are B. E. Brazier and F. A. Pawley.

Architects' League of Northern New Jersey, which has been advocating advertising on the part of architects, has recently run an ad in local papers, over the name of the League, which says, "It Pays to Consult an Architect," and then lists 18 members by name and address.

PROGRESSIVE ARCHITECTURE published monthly by REINHOLD PUBLISHING CORPORATION, 330 West 42nd Street, New York 18, N. Y. Ralph W. Reinhold, Chairman of the Board; Philip H. Hubbard, President; H. Burton Lowe, Executive Vice President and Treasurer; Fred P. Peters, Vice President and Secretary; John G. Belcher, William P. Winsor, Gilbert E. Cochran, Marvald F. Lue, Vice Presidents. Executive and editorial offices: 330 W. 42nd St., New York 36, N. Y. Subscriptions payable in advance. Subscription prices to those who, by title, are architects, engineers, specification writers, designers, or draftsmen, and to government departments, trade associations, members of the armed forces, college libraries, students, publishers, advertisers, prospective advertisers and their employees—$4.00 for one year, $6.00 for two years, $8.00 for three years. Above prices are applicable in U.S., U.S. Possessions, Canada, and Philippine Republic. Latin America—$10.00 for one year, $16.00 for two years, $20.00 for three years. All other foreign subscriptions—$15.00 for one year, $25.00 for two years, $30.00 for three years. Single copy—$1.00. Printed by Publishers Printing Co., New York, N. Y. Copyright 1951, Reinhold Publishing Corp. Trade Mark Reg. All rights reserved. Reentered as Second Class Matter September 21, 1951, at the Post Office at New York, N. Y., under the Act of March 3, 1879. Volume XXXIII, No. 5, May, 1952. In Art Index.

ABP ABC

newsletter

Women's Architectural League of the Coast Valley's Chapter (California), A.I.A., is sponsoring an exhibit at Palo Alto, May 17 and 18, showing articles of good design for home use, work of craftsmen in the area, and photographs of houses designed by members of the Chapter. Prices and sources will be given, a catalog will be published and proceeds will go to a scholarship for an architectural student. Another example of good public relations through activities of architects' wives.

California Council of Architects testified recently in favor of Field Act, which sets up earthquake-safety construction standards, pointing out that its value well justifies slight increases in construction costs.

Model for a children's playground proposed for a corner of the U.N. site in New York, presented by sculptor Isamu Noguchi and architect Julian Whittlesey, supported by citizen's group but rejected by Robert Moses in one of his various capacities, was shown recently at Museum of Modern Art. Sculptured landscape integrated with play forms is the theme. That this is a possible and practical approach to the program is indicated by the fact that another sculptor—Jose Rivera—consulting with Bryan Lynch, landscape architect, and architects La Farge, Knox & Murphy has suggested similar treatment for a Long Island project under way.

Hilla Rebay has resigned as Director of the Guggenheim Museum of Non-Objective Painting, because of illness. As yet no successor has been selected.

National Association of Home Builders, in conjunction with A.I.A., announces the 1952 merit award program for builder-architect houses designed this year. Judgments will be at three times—May, August, September—entries being due 15 of previous month. Awards will be scrolls, plus publicity after next year's NAHB convention. Entry blanks from NAHB locals or Washington office.

Those who agree with Catherine Bauer's thesis in this issue of P/A may want to see "Living in Flats," a British publication of His Majesty's Stationery Office; price 1s. 6d. Conclusion of a Central Housing Advisory Committee study is that "for families with young children there is no adequate substitute for a house."

Illinois Institute of Technology graduates its first city-planning class in June. Sixteen students who have had a four-year course under the direction of Ludwig K. Hilbersheimer, former Bauhaus professor, will be granted degrees.

HHFA's Division of Law has issued a comparative digest of all state laws having to do with community planning problems—housing, slum clearance and urban redevelopment. Other digests will be issued on legislation relating to zoning, subdivision control and urban mortgage loan restrictions.

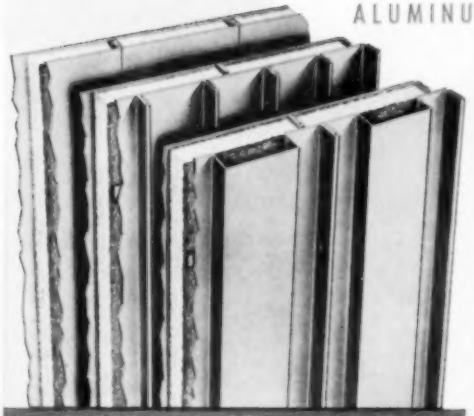
Chamber of Commerce of the United States will hold another conference on Urban Problems, in Portland, Oregon, in June. Interest of the Chamber in businessman's responsibility in planning and redevelopment problems is encouraging, and should stimulate architects and planners to get local branches behind constructive moves. As Chamber's president, D. A. Hulcy says, ". . . businessmen can help translate plans into definite accomplishments."

Important summer conference on architectural acoustics will be held at Massachusetts Institute of Technology, June 16 to June 21. Tuition for the one-week course will be $100; academic credit will be given. Write Prof. Ernest H. Huntress, Room 3-107, M.I.T.

INSULATED METAL WALLS

for INDUSTRIAL and COMMERCIAL BUILDINGS

ALUMINUM, STAINLESS or GALVANIZED STEEL



FLUSH, RIBBED, or FLUTED
Over-all "U" Factor of Various Types is Equivalent to or Better than Conventional 16" Masonry Wall

This light-weight permanent wall construction continues to gain favor among designers, builders and owners throughout the country . . . it is ideal for curtain walls in virtually any type of structure—either when employed for the entire wall surface, or in combination with brick or other materials. The building illustrated below is typical. Mahon Insulated Metal Walls can be furnished in the three distinct exterior patterns illustrated at left . . . they are available in two "Field Constructed" types, and in two types of "Prefabricated Panels". Walls of the "Field Constructed" type can be erected up to fifty feet in height without horizontal joints—a feature of Mahon walls which is particularly desirable in power houses or other buildings where high expanses of unbroken wall surface are common. For specifications and complete information on this modern, permanent Wall Construction, see Sweet's Files, or write for Catalog No. B-52-B.

THE R. C. MAHON COMPANY

Detroit 34, Mich. • Chicago 4, Ill. • Representatives in All Principal Cities

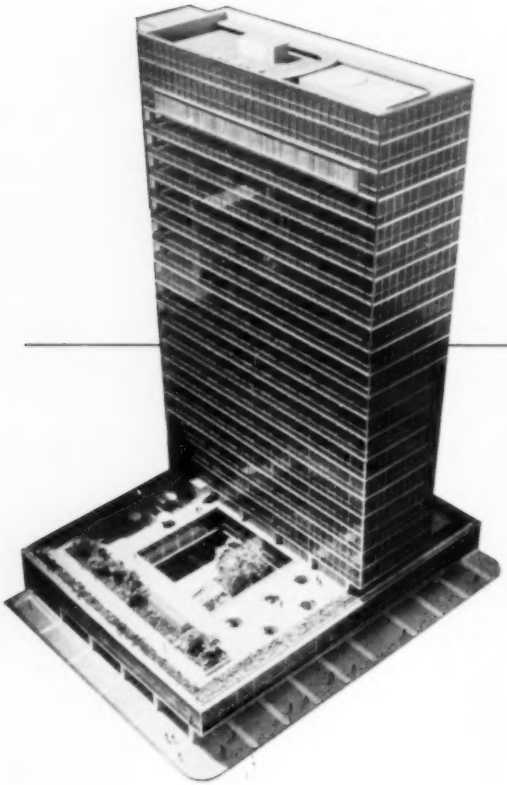
Manufacturers of Insulated Metal Walls; Steel Deck for Roofs, Partitions, and Permanent Concrete Floor Forms; Rolling Steel Doors, Grilles, and Underwriters' Labeled Rolling Steel Doors and Fire Shutters.

COPING DETAIL
PARAPET WALL

Mahon Insulated Metal Walls and Mahon Steel Deck Roof employed in the construction of a new building for L. A. Young Spring & Wire Corp., Detroit, Mich. Christian W. Brett & Associates, Architects, Burton-Matow Co., General Contractors.

MAHON

A flying trip through Lever House on those heavenly carpets by Lees!



Park Avenue Elevation of magnificent new Lever House, where Lees Contract Carpets set the decorative keynote. Interior installations by the Contract Division of W. & J. Sloane, New York. Raymond Loewy Corporation, Interior Designers.

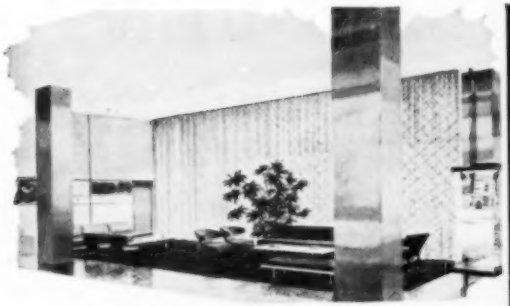
Lever House elects Lees! Engineered for tomorrow, Lees Contract Carpets make the perfect floor covering for Lever Brothers' spacious new glass-walled wonder-of-the-world! As visitors travel from floor to floor, from one handsome area to another, they say they get the feeling of being out in stellar space! Here—air, light and perfectly co-ordinated color effects—open the door to a vast new architectural world. Lees Carpets fit perfectly into this great new design for industry. Specially constructed to withstand wear and steady traffic, they come in a wide range of colors, patterns, textures, and custom designs for special interiors. Send for specific information from James Lees and Sons Company, Contract Carpet Division, Bridgeport, Penna., or offices in principal cities.

Lees® CARPETS

JAMES LEES AND SONS COMPANY

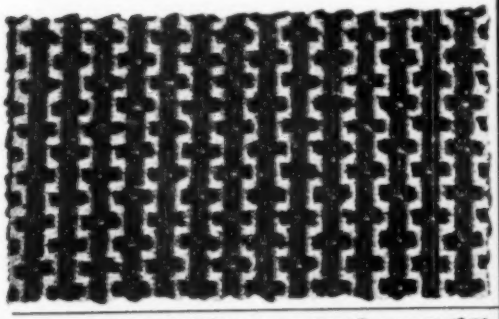
BRIDGEPORT, PENNSYLVANIA

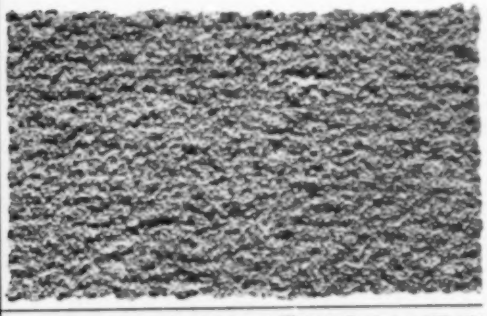
MAKERS OF LEES CARPETS AND RUGS

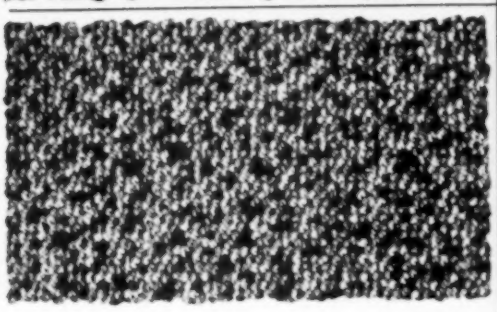


Your first greeting is the long vista of the spacious main lobby. The carpet is a rich textured Wilton specially designed for this impressive space.

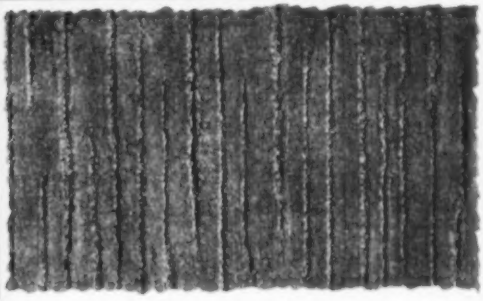
Durable dramatic Lees Darlington, designed for tomorrow, sets the informal decorative scheme for the Lever House Executive Dining Room on the scenic 21st floor.



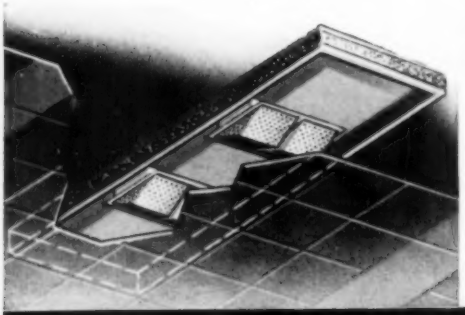




A glimpse into Harriet Hubbard Ayer Buyers' Salon gives the visitor a feeling of fashion and feminine delicacy. The carpet is Lees Locksett in soft dusty pink.



Gracious Glowtuft by Lees, an embossed effect Wilton carpet, spreads hospitality and gentle color over the broad expanse of the 21st floor reception plaza.



MULTI-VENT

T.M. REG. U. S. PAT. OFF.

Low Velocity Air Diffusion

in hospitals

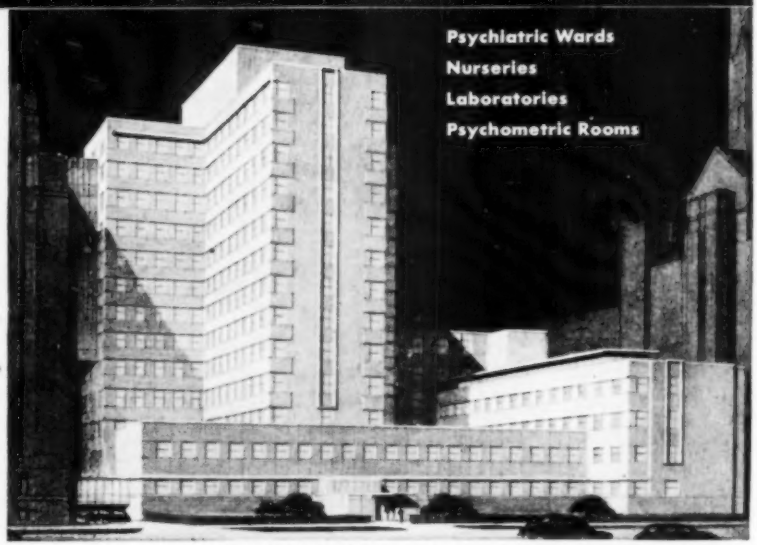
Operating Rooms
Environment Control Rooms
Delivery Rooms

where precise atmosphere control is vital!

Recent hospital Multi-Vent installations

MAYO BROTHERS CLINIC, Rochester, Minnesota
CHICAGO LYING-IN HOSPITAL, Chicago, Illinois
YAKIMA VALLEY MEMORIAL HOSPITAL, Yakima, Wash.
FRESNO COUNTY HOSPITAL, Fresno, California
NEW L.D.S. PRIMARY CHILDREN'S HOSPITAL, Salt Lake City, Utah
CHICAGO STATE T. B. SANATORIUM, Chicago, Illinois
ST. JOSEPH MEMORIAL HOSPITAL, St. Joseph, Mich.
T. B. HOSPITAL, Ohio State University Medical Center
ST. VINCENT'S HOSPITAL, Santa Fe, New Mexico
SAMARITAN HOSPITAL, Ashland, Ohio
NATIONAL INSTITUTE OF HEALTH, Bethesda, Maryland
ROSE MEMORIAL HOSPITAL, Denver, Colorado
ELIZABETH STEEL MAGEE HOSPITAL, Pittsburgh, Penn.
A.E.I. BUILDING #599, U. S. Naval Base Philadelphia, Pa.
BEAR LAKE MEMORIAL HOSPITAL, Montpelier, Idaho
L.D.S. HOSPITAL X-RAY DIVISION, Salt Lake City, Utah
RAVENSWOOD HOSPITAL, Chicago, Illinois
UNIVERSITY HOSPITAL, Omaha, Nebraska
BENSON SWIFT COUNTY HOSPITAL, Benson, Minnesota
SOUTHSIDE HOSPITAL, Bay Shore, L.I., N.Y.
ANOKA T. B. STATE HOSPITAL, Anoka, Minnesota
BINGHAM MEMORIAL HOSPITAL, Blackfoot, Idaho
MOUNT VERNON T. B. HOSPITAL, Mount Vernon, Illinois
PHELPS COUNTY HOSPITAL, Rolla, Missouri
MENOMONIE HOSPITAL, Menomonie, Wisconsin
STATE OF WISCONSIN—GENERAL HOSPITAL, University of Wisconsin
ST. JOSEPH'S HOSPITAL, Hancock, Michigan
EVINSON HOSPITAL, Laramie, Wyoming
BYBERRY STATE HOSPITAL, Tubercular Patients Building N-10
NEW MOUND PARK HOSPITAL, St. Petersburg, Florida
HEART HOSPITAL, University of Minn., Minneapolis, Minn.
JUAB COUNTY HOSPITAL, Nephi, Utah
SOMERSET STATE HOSPITAL, Somerset, Penn.
GILLETTE HOSPITAL, St. Paul, Minnesota
GADSDEN COUNTY HOSPITAL, Quincy, Florida
UNIVERSITY OF ILLINOIS, PHYSICAL ENVIRONMENT LABORATORY Urbana, Illinois
CHESTNUT HILL HOSPITAL, Philadelphia, Pa.
UNIVERSITY OF CALIFORNIA, Medical School—Teaching Hospital
PASTEUR MEDICAL BUILDING, Oklahoma City, Okla.
OAKWOOD HOSPITAL, Detroit, Michigan
COLEMAN HOSPITAL, Indianapolis, Indiana
STANISLAUS COUNTY HOSPITAL, Modesto, Calif.
UNIVERSITY OF CALIFORNIA, Virus Laboratory

✻ See SWEET'S Arch. & Eng. Files or Write for detailed literature and the name of the Multi-Vent sales engineer in your vicinity.



Psychiatric Wards
Nurseries
Laboratories
Psychometric Rooms

Multi-Vent Ceiling Panels have been specified for the new addition to the UNIVERSITY OF ILLINOIS RESEARCH AND EDUCATIONAL HOSPITALS, Chicago
Architects • Holabird, Root & Burgee, Chicago
Consulting Engineers for Psychometric Room & Medicine Research • E. P. Heckel & Assoc., Chicago

Hospital medical staffs and technicians are rapidly recognizing that the Multi-Vent panel is *the* one air diffuser that can surely meet, even surpass, their rigid air distribution requirements for air conditioning these critical hospital areas.

The success Multi-Vent has achieved in these nurseries, laboratories, operating rooms, etc. of outstanding hospitals throughout the country, is proof of Multi-Vent's ability to provide truly perfect air conditioned comfort in offices, theatres, stores, restaurants and all other types of institutional or commercial buildings . . . where the best in air distribution is desired.

Multi-Vent's unique pressure displacement principle of air distribution is completely free from BLOW or THROW (high velocity injection), the main source of draft hazards . . . thereby eliminating all of the most serious installation, balancing, and adjustment problems inherent in the velocity injection principle upon which all air diffusers except Multi-Vent depend.

MULTI-VENT DIVISION THE PYLE-NATIONAL COMPANY
1379 N. KOSTNER AVE., CHICAGO 51, ILL.

p/a VIEWS

classmate's praise

Dear Editor: Your March issue arrived today bearing the sad news of the passing of my U.S.C. classmate Gordon C. Drake.

The ability of Gordon was well recognized by his fellow classmates, such as Ralph Haver, Alden Becker, George Ligar and others; even though certain members of the faculty of the time did not concur in this view.

During Gordon's second year at U.S.C., after a faculty meeting, Gordon was called in by his Prof. and was told that because of Gordon's poor showing of design talent that it would be best that he transfer to another course. When Gordon refused to take the suggestion he was told that he was continuing at the risk of being flunked out. Gordon persisted.

The day of our graduation, (now former) Dean Weatherhead called us together for his farewell address which included the statement that the Class of '41 was the poorest group ever to graduate and would we please explain in the future that our class was an exception rather than the rule of good talent.

The showing of Gordon Drake and all the others of this class proved how wrong some professors can be. LEE SCHMIDT

Los Angeles, Calif.

beauty perceived

Dear Editor: I am employed at Orange Coast College (February 1952 P/A) and have watched closely the development of the school, its buildings, and campus. Enlarged pages of the article showing the beautiful views of our technology building, library, etc., are on display in our administration building. The students, faculty, and staff including school visitors are, of course, elated over the beauty of their college and the recognition given by your organization. JUNE ELLIOT

Costa Mesa, Calif.

true and correct

Dear Editor: We are all very pleased with the V-LOK article (February 1952 P/A) and the way the information has been handled. All statements are true and correct, and we should benefit greatly from the interest these facts will arouse.

Since V-LOK is classified as a "B" product and is open to any industrial or commercial use, we will be able to follow through on any results this publicity will produce with actual quotations and delivery schedules.

Our very sincere thanks for this excellent job of writing. A. S. VOGAN

Macomber, Inc.

Canton, Ohio

note to an architect

Build for me a house
of black striking white planes,
of stresses cancelled in red.
Wash an one, lone, solitary stamp
of Yellow
to sing
in this space, somewhere,
a yellow, 440-hued,
to prove the soundings
and prove design.

Dig deep in clay and dry gravel
for dark places where
splayed roots of
this matter may rest
and draw life from
plane upon plane above,
planes suspended from
some unseen point
in space, over-reaching
pencilled eaves lines
cutting grey,
or sometime blue.

Built of mind's
mortar, see it not
as navel on belly
over the bowels
of the earth, but as
molecule,
color surfaced,
static,
shivering
in silence
as some northern star.

And of interiors: Trace
in black ink, unwavering,
upon parchment
just Space
in which to house
a very
warm
love.

DONALD MATTHIAS

North Carolina State College

Raleigh, N. C.

views of students

P/A welcomes the new national publication of architectural students, called LINE. Edited by Julian Sachs of Catholic University, with a board of regional editors, its first issue is interesting and well-designed. The lead article by Dean Joseph Hudnut discusses the foundations of architecture and the limitations of the profession ("It would be a pity to spoil a good congressman to make a frustrated architect."); and the remainder of the issue is given over to illustrated student presentations. Excerpts follow:

"In the past there has been a wide gap between architectural education and actual practice—which the graduate discovers on his first job. It is the principle of this school to provide a mastery of the techniques and engineering skills that will permit the graduate to immediately go about making his design ideas a reality.

"He begins to learn right away how a building is built. Basic design and structure start in the sophomore year. First- and second-year students are given problems in: wall sections, masonry details, rafter and joist layouts, foundation plans, interior details, member sizing. The approach thereafter to design problems is one of increased respect for the limitation of materials and with the demand that the student be creative with his limitations." "CAL POLY"

"Research into man's previous attempts to solve his architectural problems, combined with concurrent study of structural techniques, materials of construction, consideration of the cultural pattern of contemporary life, and the effective expression of the design product in graphic form constitute the design process at Carnegie. Illustrative of this integration is the policy of keeping each design problem within the technical limitations of the particular class for whom it is written." A. H. RIDER

A. L. WOLFE

Carnegie Institute of Technology

"The object of education at Notre Dame is the development of the whole man by co-ordinating and integrating all the elements of human existence with respect to a final purpose and end. GUY V. PRISCO

VIEWS

(Continued from page 9)

reasons for licensing?

Dear Editor: Regarding the "Georgia Incident" (October 1951P/A), one could substitute the name of almost any other state. Why do members of the profession prattle about the "legal question" and refuse to admit that Public Safety has nothing whatever to do with the licensing of architects? There were generally no registration laws a few years ago —and buildings weren't falling down.

Registration laws are used mainly for two purposes—to limit competition and to provide a source of draftsmen for the political boys, who manage to wangle their way into the driver's seat and many of whom know appallingly little about architecture.

IRVING CORYELL
Albuquerque, N. M.

converted committee

Dear Editor: It happens that we have been commissioned to design a new country club and the particular issue (October 1951 P/A) featured two clubs. To point out to the building committee the fact that a country club does not have to be designed in an oldfashioned style, I showed them these two contemporary club houses. They are now converted!

MATT SUMNER
Muskegon, Mich.

edited for profession

Dear Editor: Congratulations on the February issue of P/A—the best yet, and the best architectural publication in the field.

It's comforting to know that some editors still consider the profession worthy of its own magazine. Particularly enjoying the new departments and tinted papers.

Keep up the good work—looking forward to future issues. EARL P. CARLIN
Hamden, Conn.

best published

Dear Editor: I think that P/A is the best architectural magazine published. K. E. MURFF
Tupelo, Miss.

pat on the back

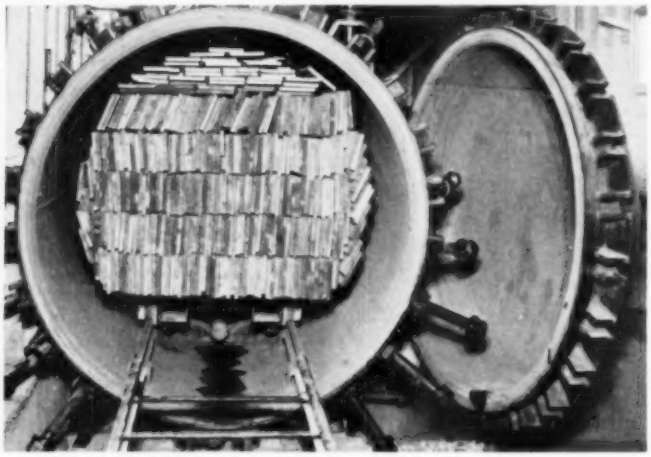
Dear Editor: This is a pat on the back for your recent activity. First I must express my pleasure on your February P.S. regarding the "good old days of *Peacil Points*," etc. It was perfect.

Principally, however, I am writing to congratulate you and your staff on the beautifully assembled March issue. In layout, sequence of departments, subject matter selected, photography, and unpretentious presentation you've rung the bell. It was the easiest to read and most enjoyable issue of an architectural magazine I've read in a long time.

The Belluschi article was fine, and I was pleased with the handling of the related SELECTED DETAIL. The photographs and layout of the house by Moscowitz, Willner, and Millkey were excellent. (I think a good supplement would be a construction outline, and also biographical notes on the architects.)

I am glad to see you people taking honest

(Continued on page 12)



FIRST IN NEW YORK AREA

LARGE VACUUM-PRESSURE CYLINDER FOR TREATING LUMBER WITH PENTACHLOROPHENOL

PROTECTION AGAINST DECAY

To meet the growing demand for lumber *permanently* treated for protection against rot and insect deterioration, we have just installed a large vacuum-pressure cylinder at our Kenilworth, N. J. plant, the *first* Pentacholorophenol pressure cylinder in this area. This assures *clean, non-leaching,* preservatively treated, lumber available to Architects, Engineers and Contractors for joists, sills, studding, sub-flooring, foundation timbers, car siding and platform decking, ties, guard rail posts, bridge timbers and a host of other items. Inquiries invited.

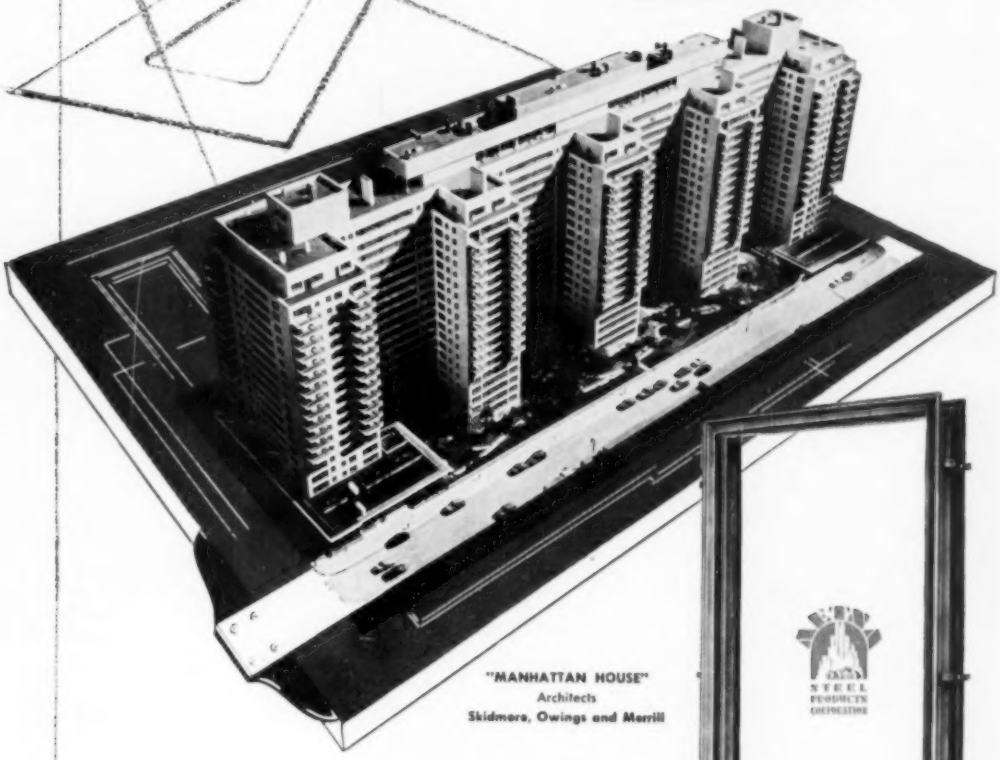
PROTECTION AGAINST INSECTS

See us in Sweet's—or contact our nearest office

PROTEXOL CORPORATION
76 MARKET STREET KENILWORTH, N. J.
NEW YORK CHICAGO
ST LOUIS SAN FRANCISCO LOS ANGELES
Protexol FIREPROOFS

WE'RE OLD ENOUGH TO KNOW BETTER...

and we do!



"MANHATTAN HOUSE"
Architects
Skidmore, Owings and Merrill

Aetna started fabricating hollow metal doors and frames over 50 years ago.

Since then, the hollow metal door and frame industry has become of prime importance in the building field.

Aetna's expansion has paralleled that of the industry, and today, Aetna is the country's leading producer of hollow metal doors and frames.

We owe our growth and leadership to architects, designers, specification writers and builders, who know that Aetna products are of high quality and that Aetna engineering and follow-through on specifications are painstaking, accurate, dependable.

AETNA STEEL PRODUCTS CORPORATION

730 FIFTH AVENUE. NEW YORK 19. NEW YORK

MANUFACTURERS OF STANDARDIZED STEEL DOORS AND FRAMES FOR HOUSING UNITS

FABRICATORS OF QUALITY HOLLOW METAL PRODUCTS FOR SCHOOLS, HOSPITALS, OFFICE BUILDINGS, ETC.

VIEWS

Continued from page 10)

advantage of the very widespread disenchantment with another approach to producing a professional architectural magazine.

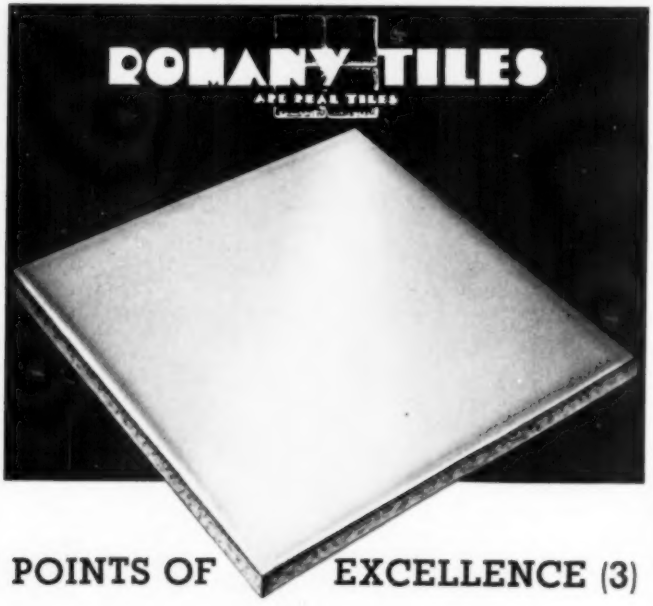
Again heartiest congratulations.

LEONARD JACOBSON
New York, N.Y.

interesting and educational

Dear Editor: I think P/A is a fine magazine, and with every issue the material presented seems to be more interesting and educational.

JOSEPH TODISCO
New York, N.Y.



POINTS OF EXCELLENCE (3)

The Romany CUSHION EDGE

ROMANY TILES are all modern cushion edged tiles. The minutely rounded edge returns the glaze into the cement joint and creates a clean sanitary surface. The cushion edge also gives the individual tile a modeled clay look. Other Romany values include unsurpassed wearing qualities, many selective non-fading colors, water, stain and fire resistance, and a hard glazed easy-to-clean surface.

Every Architect should have our Sample Tile Chart No. 6. It's free.

UNITED STATES QUARRY TILE CO
Member: Tile Council of America and Producers' Council, Inc.
217-G FOURTH STREET, N.E. CANTON 2, OHIO

difficult to express

Dear Editor: With words, it is difficult to express to you the deep appreciation that I hold for this publication. I appreciate very much the caliber of material to be found within the pages of P/A.

SAM N. BAUGHMAN
S. Petersburg, Fla.

complete and good

Dear Editor: I have never found a magazine so complete and as good in its field as P/A

LEE HUNTER PLANNING SERVICE
Fort Stockton, Tex.

likes interior design

Dear Editor: Sincerely, I believe P/A is the best of all the magazines in the architecture field. I am enjoying the new interior design section.

LELAND L. LAWRENCE
Champaign, Ill.

from the northwest

Dear Editor: While I'm at it, tell someone around there that your magazine has been doing a wonderful job of late. But why not get some of the stuff that's being done out here in your magazine? Some of it is not at all bad.

JESSE T. WILKINS, JR.
Mercer Island, Wash.

more congratulations

Dear Editor: Congratulations on your very fine March issue.

HARRIS ARMSTRONG
St. Louis, Mo.

not a local affliction

Dear Editor: How we sympathize with your P.S. in February 1952 P/A. We invite and constantly receive criticisms of our journal from our regular readers and, even as editors, we are at times amazed at the diversity of opinion which one feature can arouse.

Like you also, we try to keep up to date, and periodically adjust our regular features to new trends and demands in modern architecture, which invariably brings on our heads a spate of nostalgia from the more conservatively-minded architect and student, and references to our predecessor who left ten years ago. We are so amused to hear of the same troubles in U.S.A.

With all good wishes.

MONICA PIDGEON
Architectural Design
London, England

P.S. We *still* like the title, *Pencil Points!*

Armstrong's De Luxe Asphalt Tile offers an unusual opportunity to meet the challenge of budget limitations. It has quality features that make it an unexcelled flooring value at the low-cost level. A unique manufacturing technique produces its distinctive swirl marbleization and gives it exceptional strength and flexibility.

Showrooms
The Admiral Corporation, Chicago, Illinois
Harper Richards, Architect

ARMSTRONG'S ASPHALT TILE

ARMSTRONG CORK COMPANY • LANCASTER, PENNSYLVANIA

Why does "rain" often form inside roof spaces of a crowded store or school? (pages 19, 32)

Why does moisture gather on a water-and-vapor-proofed concrete floor? (page 32)

Why is it wrong to vent cold roof spaces to a warm inside space? (page 33)

Does a concrete floor slab lose heat only at the edges? (page 40)

In what direction does heat flow by Conduction? Convection? Radiation? (pages 11, 15)

Do "dead air spaces" exist with respect to heat flow? (page 16)

Why do metals radiate and absorb less heat than wood, plaster, rockwool? (pages 13, 46)

Why replace low-conductive air with denser materials of greater conductivity, i.e. ordinary insulation. (pages 11, 13, 14, 29)

The answers to these and numerous other problems of heat and vapor flow are found in the pages of the Revised Fifth Edition of

SIMPLIFIED PHYSICS of Vapor and THERMAL INSULATION

By Alexander Schwartz

Written in simple language easy to understand, yet accurate and complete enough to gratify the scientist. Crammed with information the engineer, architect, public official, builder, contractor, insulator, heating installer, need. Hundreds of universities and technical schools use previous editions as a text.

56 pages of Facts, Figures, Charts, Illustrations, and Explanations of Heat and Vapor Flow; Vapor Permeability; Condensation; Dry Rot; Conduction and Density; Convection; Radiation and Emissivity; Reflection and Absorption. Suggests solutions and illustrated techniques for practical problems of insulation installation, condensation, protection against heat loss or intrusion, radiant heating; cold storage.

For The First Time
TABLE OF ABSORPTIVITY AND EMISSIVITY OF MATERIALS
Plus, Revised and Amplified, the Famous
CHART OF THERMAL INSULATION VALUES

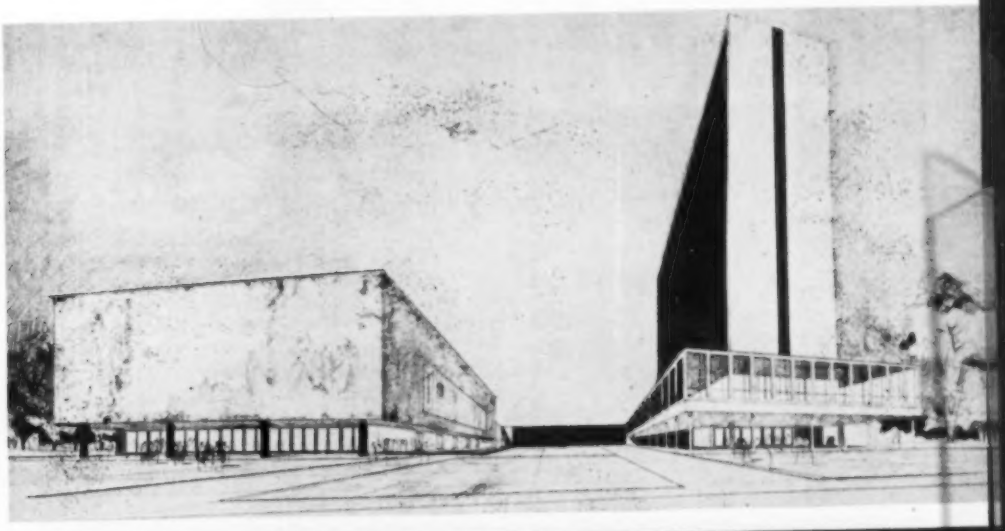
These 2 charts are indispensable to anyone interested in building and heating. THE VALUABLE MANUAL IS FREE! Just fill in the coupon below.

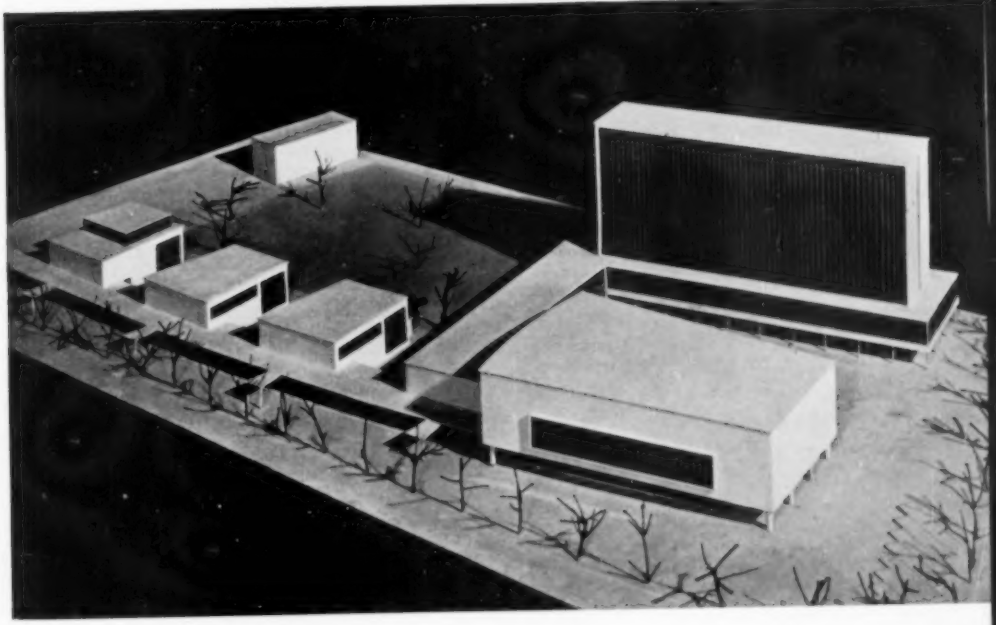
INFRA INSULATION, INC.
525 Broadway, N.Y., N.Y. Dept. P5
Please send FREE copy of "Simplified Physics of Vapor and Thermal Insulation"
Name_____
Connection_____
_____
Address_____
☐ Send Infra Insulation prices.
☐ Send Infra sample.

In HERE are the answers

INFRA INSULATION, INC.
525 Broadway, N. Y., N. Y.
WORTH 4-2241

Architects for a group of new buildings for the Free University of Berlin, at Dahlem—a library, a lecture-hall building, and a series of classrooms—were recently selected through a design competition in Germany. In the prize-winning scheme by Sobotka and Muller (*overpage*) the jury found that "the balance is excellent, and the entire design is well integrated . . . The architecture would do justice to the character of a University." Of the second-prize project by Rudolf Ullrich (*below*), the Jury commented that "the clear and rhythmic placing of the lecture hall and auditorium, with the free-standing library and classroom wings, does justice to a progres-

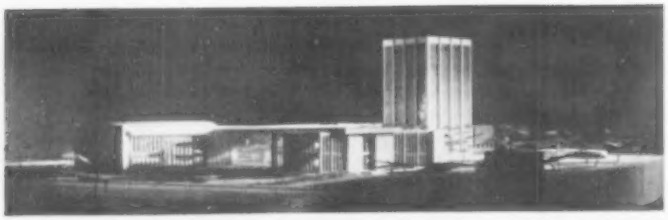


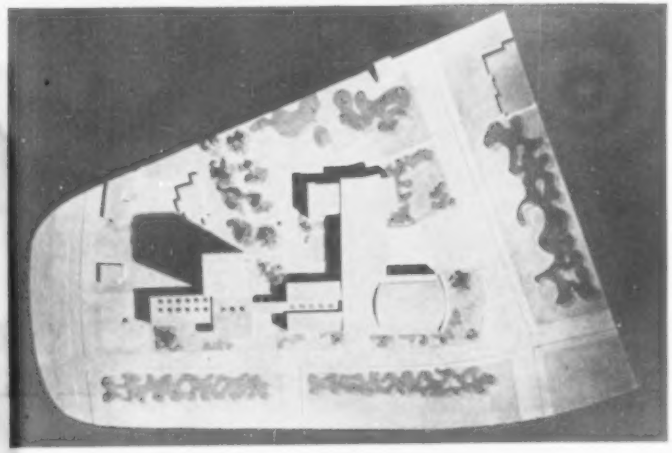


free university of berlin competition

PROGRESS PREVIEW

(Continued from page 15)



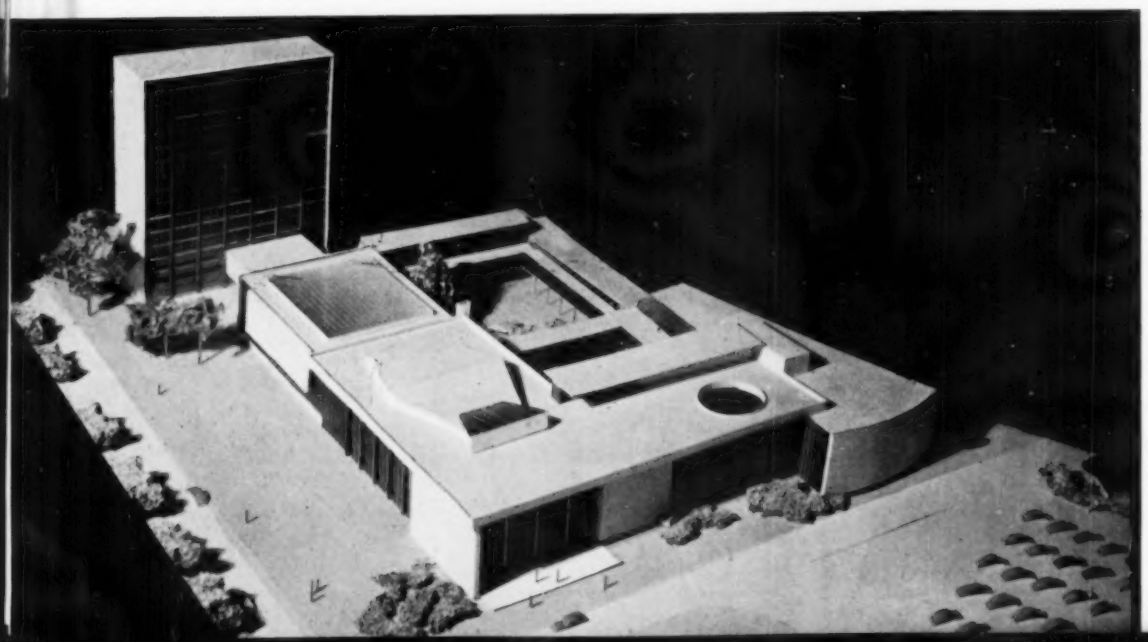


First-prize winners were Sobotka and Muller, whose project is shown above; at bottom of this page is the design by Herman Fehling that won third prize.
Photos: M. Krajewsky

sive city . . ." The third-prize scheme (*below*) was considered "a well-balanced building plan." Funds for constructing the new buildings are a gift of the Ford Foundation, in acknowledgment of the importance of the Free University's role in strengthening democracy and responsible leadership.

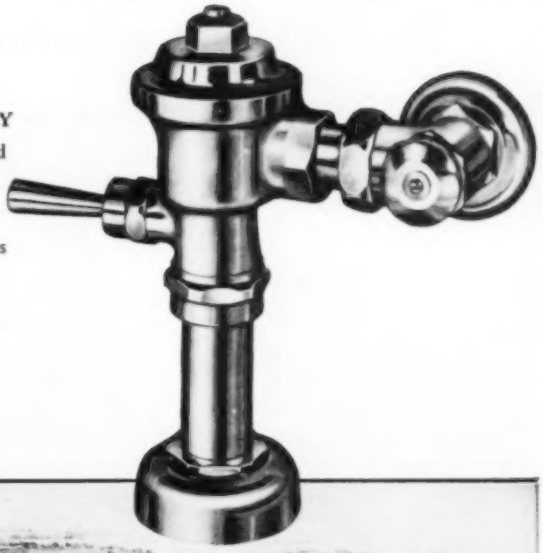
The competition program called for a library, planned initially to accommodate 200,000 volumes, but schemed for eventual enlargement to hold a maximum of 1,000,000; a lecture-hall building to include an auditorium to seat 1200 and a large stage; two lecture rooms with 500 seats each, and two rooms for groups of from 200 to 250. In addition, six smaller classrooms were required. The University had already acquired the site.

Special restrictions limited building heights to 12 meters (approximately 40 feet); required that the lecture building be located at the important street intersection, and that daylight for lecture rooms come from east and west. A suggested factor was that the group *not* be "an extremely modern design, as we feel that a building of this type should be ageless, and this can only be achieved by simplicity of design." An "attractive pavilion style" was advocated, "in consideration of the buildings in the neighborhood."



And in Clemson – A FUTURE OF FAULTLESS SERVICE

Largest of its kind in the world—that describes this gigantic new Utica-Mohawk cotton mill, equipped throughout with DELANY FLUSH VALVES, as specified by the architects and engineers. Combining 14 acres of plant under a single roof, fine quality goods will be produced in uninterrupted flow from bale cotton to finished sheets and pillow cases. Equally uninterrupted will be the flawless operation of the COYNE & DELANY diaphragm type FLUSH VALVES and VACUUM BREAKERS—unmatched in design and virtually maintenance free.



UTICA & MOHAWK COTTON MILLS
Division of J. P. Stevens & Co., Inc.
Clemson, South Carolina
LOCKWOOD GREENE ENGINEERS, INC.
architects & engineers
DANIEL CONSTRUCTION CO.
contractor
STEWART SUPPLY CO.
wholesale distributor

For those who have lived with COYNE & DELANY there is no other valve. Shown at left is a deciding factor—the interior working assembly of a DELANY valve Only six working parts comprise this assembly—less than any other valve offers today. Removing the valve cover immediately identifies any source of difficulty, and replacements, if necessary, are accomplished inexpensively, instantaneously—and infrequently.

COYNE & DELANY CO. • 834 KENT AVE. • BROOKLYN, NEW YORK

Since 1879

DELANY *Flush* VALVES

new member

REISNER & URBAHN, architects, New York, announce that JOHN JANSSON, A.I.A., has joined that firm to head the new School Department, that has more than $20 millions of school projects on the boards.

architect honored

CLARENCE C. ZANTZINGER, Philadelphia, of Zantzinger & Borie, is one of the 14 noted men and women of the arts elected last month to National Institute of Arts and Letters. The Institute is limited to 250 life members.

Give ventilation a *quiet lift* with **Airlift . . .**
(Swartwout duct ventilator)

For duct exhaust where you want to provide unobtrusive (compact profile) ventilators operating at very low noise levels, specify Swartwout Airlift. It's an outstanding success on hospitals, schools, institutions, apartments and industrial buildings. Its effective centrifugal fan wheel runs at low tip speed—has a certified rating. Streamlined fan inlet and oversize outlet opening assure high efficiency with minimum turbulence and friction losses. It is often possible to use smaller size Airlift units than ordinarily specified in this type of ventilator. Made in a wide range of sizes, and capacities from 280 to 32,000 C.F.M. Higher capacities available for special needs. Write for full description in Bulletin 341E.

18511 Euclid Avenue, Cleveland 12, Ohio
The Swartwout Co.
Roof Ventilators and Ventilating Louvers
POWER PLANT EQUIPMENT • PROCESS INDUSTRY CONTROLS

new practices, partnerships

PAUL RUDOLPH, architect, announces the opening of his office at 542 B. Main Street, Sarasota, Fla., for the practice of architecture.

Announcement is made of the new firm of THEODORE H. IRION, A.I.A., and LEONARD H. REINKE, A.I.A., to practice architecture at 199 North Main Street, Oshkosh, Wis.

A partnership has been formed under the title, TUCHMAN & CANUTE for the practice of architecture at 47 S. Portage Path, Akron, Ohio. The partners, JOSEPH TUCHMAN and GORDON W. CANUTE are registered architects.

The firm of CHARLES E. BUTNER, A.I.A., architect, 1112 Pajaro Street, Salinas, Calif., is now in the practice of architecture under the firm name of BUTNER, HOLM & WATERMAN, CHARLES E. BUTNER, A.I.A., and WALLACE J. HOLM, A.I.A., Architects. The new firm will continue practice at the same address.

RHODERIC TAYLOR announces the opening of his office at 209 Arcade Building, Melbourne, Fla., for the practice of architecture.

The office of YORK & SAWYER, architects, 101 Park Avenue, New York, N.Y. and 1308 18 Street, N.W., Washington, D.C., announces the admission, January 1, 1952 of JAMES J. SOUDER to general partnership and LOUIS C. ROSENBERG and MARY T. WORTHEN as associates.

ALEXANDER BERGER, specialist in engineering and construction problems, announces formation of the HAMILTON CONSTRUCTION CORPORATION, 155 East 42 St., New York 17, N. Y.

BEN ADAMS BUCK, Registered Architect, announces resumption of his practice at Barn Hill Road, West Chatham, Mass.

H. E. BOVAY, JR., Consulting Engineers, Es-

(Continued on page 20)

Does Far More...Yet Costs No More

than ordinary sheathing, applied!

"Tug of War" Test Proves Greater Bracing Strength

As the turnbuckle was tightened, note how the Celotex Insulating Sheathing panel remained plumb—*while the panel of ordinary sheathing was distorted.* Now you see why Celotex Insulating Sheathing builds a better, stronger wall at lower cost! Why it belongs in your specifications!

CELOTEX INSULATING SHEATHING does several jobs at one cost

Applied (that's the only way to figure *true* cost), Celotex Insulating Sheathing costs no more, and USUALLY LESS, than ordinary sheathing. Yet it gives you far more.

1. **INSULATES AND WEATHERPROOFS** as it builds. All at *one* cost. No building paper needed. Saves labor, materials.
2. **GREATER BRACING STRENGTH,** about 30% greater than ordinary sheathing. *No corner bracing* needed to meet FHA requirements, with 4' wide, 25/32" thick Celotex Insulating Sheathing.
3. **GOES UP 30% FASTER.** Easier to cut and fit. Up to 15% less waste. Siding or shingles can easily, quickly be applied *direct.*
4. **DOUBLE-WATERPROOFED.** Inside, by integral treatment that coats every fibre; outside, by asphalt coating on both surfaces and all edges. Yet it has over twice the vapor permeability required by government agencies!
5. **IT'S THE ONLY SHEATHING** made of tougher, stronger, long Louisiana cane fibres—and protected by the patented Ferox® Process from dry rot and termite attack.
6. **NATIONALLY ADVERTISED** in The Saturday Evening Post, Better Homes & Gardens, American Home, Farm Journal and other leading magazines.

Count up the savings and advantages, and you'll agree: Celotex Insulating Sheathing is the key to more comfortable, more enduring homes at lower cost. That's why it's being specified by more and more architects all over the country. Write now for *free* booklet giving full data. The Celotex Corp., Dept. PA-52, 120 S. LaSalle St., Chicago 3, Ill.

Quick, low-cost way to build

"the Ideal Wall"

Celotex Insulating Lath *insulates* as it forms a strong, solid, continuous plaster base that reduces danger of plaster cracking. Used in combination with Celotex Insulating Sheathing, it gives you "the Ideal Wall"—a better, stronger wall with BUILT-IN insulation. Write for complete information today.

For better homes . . . specify genuine **CELOTEX** BUILDING PRODUCTS

The Celotex Corporation
120 S. LaSalle Street
Chicago 3, Illinois

NOTICES

(Continued from page 18)

person Building, Houston, Tex., formerly an individual professional engineering practice, became a partnership recently. The partnership consists of H. E. BOVAY, JR., BENNETT W. BURNS, CHARLES A. LAWLER, J. WAYNE HOLLAND, and RICHARD B. ROBERTSON. The name and location of offices remain unchanged.

There's plenty of timber

for BOTH DEFENSE AND CIVILIAN NEEDS

And timber fabricators in all sections of the country are ready to serve you.

Our 20-page booklet "Timber for Military, Commercial and Industrial Buildings" illustrates the many types of jobs now being built with the Teco connector system, glued-laminated construction and Lamella construction.

Here in pictures you'll see stores, markets, factories, warehouses, garages, hangars of the type that are being built now.

Specify timber—there's plenty of it and ready as usual for early delivery.

TIMBER ENGINEERING COMPANY, 1319-18th St., N.W., Washington 6, D. C.

Please send me FREE copy of "Timber for Military, Commercial and Industrial Buildings."

Name.....

Company.....

Street..... City..... State.....

PA

EDWARD J. AISNER, formerly associated with Maginnis & Walsh, announces the opening of his office for the practice of architecture at 20 Newbury Street, Boston 16, Mass.

MATTHIESSEN, JOHNSON, GREEN, Architects, Stamford, Conn. and New York, N. Y., announce the dissolution of their partnership. ERARD A. MATTHIESSEN will maintain a business office at 73 E. 57 St., New York, N. Y. VERNER WALTER JOHNSON will continue the practice of architecture at 73 E. 57 St., New York, N. Y. WARREN B. GREEN will continue the practice of architecture at Rippowam Village Rd., Stamford, Conn.

The firm of WALTER ARNOLD & NORMAN J. HAMILL, A.I.A., has dissolved partnership. NORMAN J. HAMILL has established his own practice with offices at 211 Medical Arts Building, Butte, Mont.

designer honored

WALTER DORWIN TEAGUE, New York industrial designer, has been named "Honorary Royal Designer for Industry" by the Royal Society of Arts. A vellum diploma sent from England is signed by Queen Elizabeth, who was president of R.S.A. until she became monarch.

appointments

LEO A. DALY COMPANY, architects and engineers, Omaha, Neb., and St. Louis, Mo., announce appointment of GILBERT H. MANDEVILLE as manager of a new branch office opened in Seattle, Wash., to handle the company's work in the Northwest.

WALKER ART CENTER has announced appointment of H. HARVARD ARNASON as Director.

new addresses

GOLEMON & ROLFE, Architects, 5100 Travis St., Houston, Tex.

J. PATRICK MacLEAN, 4275 Halldale Ave., Los Angeles 62, Calif.

Craftsmanship calls for COOLITE

Heat Absorbing and Glare Reducing Glass Protects Skilled Eyes and Hands

Architect—J. N. Pease & Co., Charlotte, North Carolina
General Contractor—Inge-Hayman Construction Co., Inc., Dallas, Texas
Glazing Contractor—Pittsburgh Plate Glass Co., Charlotte, North Carolina

Kroehler, Famous Name in Furniture, Chooses COOLITE GLASS by Mississippi

Kroehler Manufacturing Co. safeguards the high quality of its famous furniture by flooding workrooms with filtered daylight. Three exposures in this modern factory are glazed with 5800 square feet of Coolite, Heat Absorbing and Glare Reducing Glass. The precise workmanship of the woodworking shop and careful skill of the sewing department would be difficult to maintain under the eye-fatiguing glare of raw sunlight. But Glare Reducing Coolite strains out the unwanted properties in natural light . . . floods rooms with softened illumination that aids seeing tasks . . . keeps interiors more comfortable by helping to absorb solar heat rays.

Coolite has a refreshing, cool, blue-green color, modern in appearance. It reduces maintenance . . . no painted windows, makeshift shields or bothersome blinds. In your plans for new construction or the modernization of existing facilities, investigate Coolite. See how it can provide increased efficiency and economy for your clients. Get in touch with your Mississippi Glass distributor today.

Mississippi offers a wide variety of patterns in translucent, figured and wired glass. All are scientifically designed to distribute daylight to best advantage. "Visioneer" your buildings with glass by Mississippi.

Send for free catalog, "Coolite Heat Absorbing and Glare Reducing Glass." Samples on request.

MISSISSIPPI Glass COMPANY

88 ANGELICA ST. SAINT LOUIS 7, MO.

NEW YORK • CHICAGO • FULLERTON, CALIF.

WORLD'S LARGEST MANUFACTURER OF ROLLED, FIGURED AND WIRED GLASS

You provide 3 extra-quality features when you specify

CORBIN

HEAVY-DUTY CYLINDRICAL LOCKS!

- **5/8 inch throw** insures secure locking even on doors that shrink or warp!
- **for extensive master-key systems** the Corbin master-ring cylinder doubles the number of possible key changes!
- **if keys are lost,** the cylinder can be removed readily, from inside, for fast, easy replacement or for re-keying.

Every fine building deserves these extra-quality features provided by Corbin Cylindrical Locks. Compare these locks point by point, feature by feature, with any other cylindrical locks you have ever used. You will find that Corbin offers all the standard features *plus* extra quality advantages that mean more satisfactory operation — longer wear with less maintenance — fast, low-cost installation.

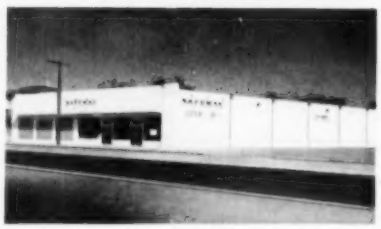
Corbin Cylindrical Locks are furnished in four designs — each made in the 13 functions most frequently used in schools, hospitals, apartments, offices, public buildings and fine residences.

There is a Corbin Distributor or Corbin Representative in your vicinity who will gladly give you complete information about Corbin Cylindrical Locks and assist you with specifications for any type of installation. If you do not know his name and address, we shall be happy to furnish them.

Your Corbin Distributor is a GOOD Hardware Man!

Corbin distributors are selected for their ability to work with you constructively on builders' hardware specifications. Corbin helps them by conducting two builders' hardware schools each year for distributors' employees.

The quality of their service, together with the fine quality of Corbin products, has made Corbin *the most widely used builders' hardware in the world!*



Eight-story office building or one-story store... both prove versatility of

TILT-UP CONSTRUCTION

From coast to coast architects and engineers are turning to *Tilt-up*, the fast, economical method of concrete construction for stores, warehouses, office and industrial buildings, hospitals, schools, homes and apartments.

Tilt-up is adaptable to individually designed or standard buildings. It is quick and easy and reduces form building to a minimum. Wall panels are cast flat in simple edge forms—usually right on the concrete floor—and then tilted up into position with power cranes or hoists.

Forms for door and window openings are positioned in the walls before placing the concrete. Walls can be sized to meet a wide variety of requirements. After panels have been tilted up into position they are tied into one integrated unit with cast-in-place piers and beams.

Tilt-up structures have all the desirable qualities of any concrete building. They're strong and durable. They resist decay, termites, storms, vermin and fire. Their first cost is moderate, they give lifetime service and they cost little to maintain. That's true ***low-annual-cost*** construction!

PORTLAND CEMENT ASSOCIATION

Dept. S-25, 33 West Grand Avenue, Chicago 10, Illinois

A national organization to improve and extend the uses of portland cement and concrete . . . through scientific research and engineering field work

Now available . . .

New *TILT-UP* Book

Learn more about this modern time-saving, economical construction method. Write for a new illustrated technical book. It's available free and contains a variety of construction and design details. Distribution of this book is limited to the United States and Canada.

25" / 32

of Solid Beauty

■ Here's beauty that's not just "skin deep." Bruce Blocks are made of solid hardwood strips, 25/32" thick. Even after many years of hardest wear, this floor can be refinished to look just like new. Its beauty never wears off, its natural colors never fade. And the smart, functional design of a Bruce Block Floor will match even the most modern interior.

Bruce Blocks are ideal for all types of construction . . . can be laid in mastic over concrete slab or blind-nailed over wood subfloor. They are available unfinished or finished at the factory. To save time and money and to give owners a superior finish, specify *Prefinished* Bruce Blocks . . . ready to use as soon as laid. See our catalog in Sweet's File. Write us for booklet with room photos in color.

BRUCE

Bruce Block

Hardwood Floors

PRODUCT OF E. L. BRUCE CO., MEMPHIS 1, TENN.

World's largest maker of hardwood floors

Architect Engineer: Richard Hawley Cutting Associates, Cleveland. T. Marshall Rainey, A.I.A.

Its main aisle is **STREET-WIDE**

It's literally true—when you design a Visual Front into your client's store, the street becomes the store's main aisle. Motorists as well as pedestrian shoppers can see in. And when people can see in, more come in—and *buy*.

In this, as in similar applications, we recommend *Thermopane** insulating glass to guard against the steam and frost that beset florists' windows in winter, and *Tuf-flex** tempered plate glass doors that say, "Come in!" Mirrored walls reflect and multiply the merchandise. Single-glazed clerestory windows may be clear glass or any of a number of patterns.

Our Visual Fronts book suggests a number of ways storefronts can be used to invite customers. Write for your free copy today to Libbey·Owens·Ford Glass Company 8352 Nicholas Building, Toledo 3, Ohio.

*®

GLASS MAKES IT A VISUAL LOF GLASS FRONT

LIBBEY·OWENS·FORD

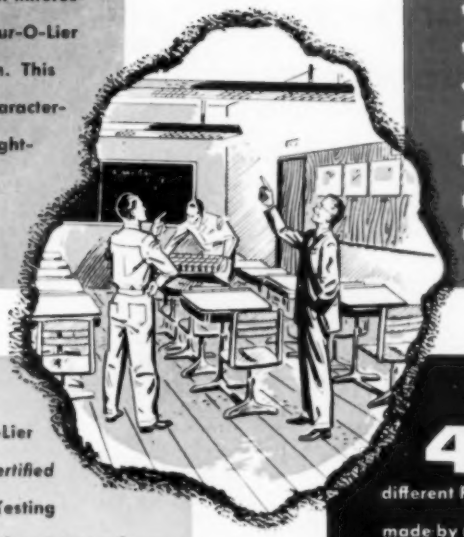
a Great Name in **GLASS**

POLISHED PLATE GLASS · WINDOW GLASS · TUF-FLEX* PLATE & DOORS · SAFETY GLASS · THERMOPANE* · E-Z EYE SAFETY PLATE · VITROLITE* · FIBER-GLASS

YOU GET 4 EXCLUSIVE ADVANTAGES WHEN YOU SPECIFY

FLEUR·O·LIER

1 Only Fleur-O-Lier fixtures are rated on the Fleur-O-Lier Index Rating System. This gives illuminating characteristics, shielding, brightness, etc., for each fixture.



2 Complete photometric test data including distribution curves and coefficients of utilization tables are computed by Electrical Testing Laboratories, Inc., and are provided for every Fleur-O-Lier luminaire.

3 Fleur-O-Lier fixtures are *certified* by Electrical Testing Laboratories, Inc., as complying with rigid specifications covering electrical and mechanical construction.

4 More than 300 different Fleur-O-Lier fixtures made by nearly 30 manufacturers give you a wide selection from which to choose.

THESE 4 ADVANTAGES ASSURE *Lighting Satisfaction* WHEN YOU SPECIFY FLEUR-O-LIER

Free Booklet

Write for your free copy of the new booklet giving complete details of the Fleur-O-Lier Index System.

FLEUR·O·LIER

Manufacturers

2116 Keith Building • Cleveland 15, Ohio

Fleur-O-Lier is not the name of an individual manufacturer, but of a group of fixtures made by leading manufacturers. Participation in the Fleur-O-Lier program is open to any manufacturer who complies with Fleur-O-Lier requirements.

SAVE THOUSANDS OF DOLLARS EVERY YEAR

...use Fenestra super-galvanized steel windows

No more bills for the expensive time and labor and materials involved in painting windows every few years. Save thousands of dollars every year by insisting on Fenestra® Super Hot-Dip Galvanized Steel Windows!

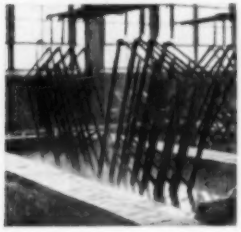
Here's why they are called *Super* Galvanized: Fenestra has developed a Hot-Dip Galvanizing system designed specifically for steel windows, and has built a special plant around it. It is the only one of its kind in America.

Completely automatic controls move Fenestra window assemblies through a series of special tanks where they are cleaned and pickled, rinsed, fluxed, dried, galvanized and Bonderized. Timing, temperatures—every step—is laboratory controlled.

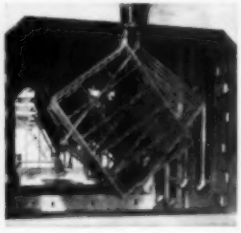
So add Super Hot-Dip Galvanizing to your present list of Fenestra advantages... such as integral ventilator butts that increase window strength, precision machining of window bars for perfectly uniform window size, automatic assembly of ventilators for perfect permanent fit, continuous double contact for weather-tightness all around vent openings, rigid *interlocking* muntin joints.

And, remember, Fenestra's volume production, permitted by standardization of types and sizes, gives you high-quality Fenestra Steel Windows at remarkably low cost.

Call your Fenestra Representative or write Detroit Steel Products Company, Dept. PA-5, 3409 East Grand Boulevard, Detroit 11, Michigan. *8

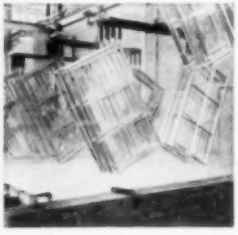


FLUXING. After cleaning, pickling and rinsing, Fenestra Windows dip into a flux bath that provides a film to prevent contamination of the cleaned steel as it passes to galvanizing tank.



DRYING. In this oven, the flux is dried on. Of course, in the galvanizing tank, this protective coat of flux volatilizes on contact with the molten zinc to permit a strong zinc-iron bond.

GALVANIZING. Assemblies dip deep into molten zinc, and come up with a heavy, smooth, uniform coating. Temperature and timing are automatically controlled with laboratory accuracy.

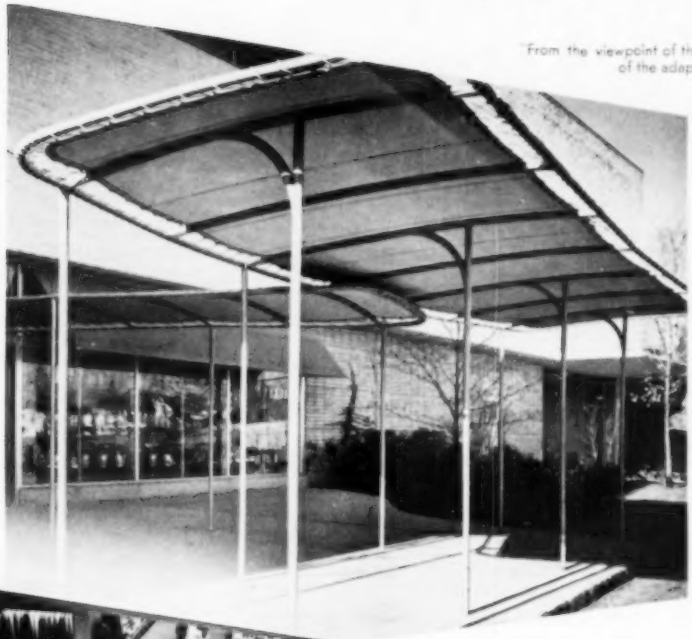


BONDERIZING. Here you see the galvanized assemblies being Bonderized to give the surface a soft silver color and to provide a holding surface for decorative paint, if it is ever desired.

Fenestra SUPER HOT-DIP GALVANIZED STEEL WINDOWS

from America's first plant especially designed to galvanize steel windows

Lord & Taylor's Suburban Store, Millburn, New Jersey
Designers: The Raymond Loewy Corporation



"From the viewpoint of the building designer, canvas is another of the adaptable materials which can be integrated into a total design to provide color, texture, grace. As I use it, canvas is not seasonal or demountable; it is part of the architecture. Although alternate materials may seem to have greater durability, I doubt if canvas can be matched for economy. Primarily, I like the variety of applications it allows me and the fact that it introduces a note of lightness, delicacy to offset the weight of a building mass."

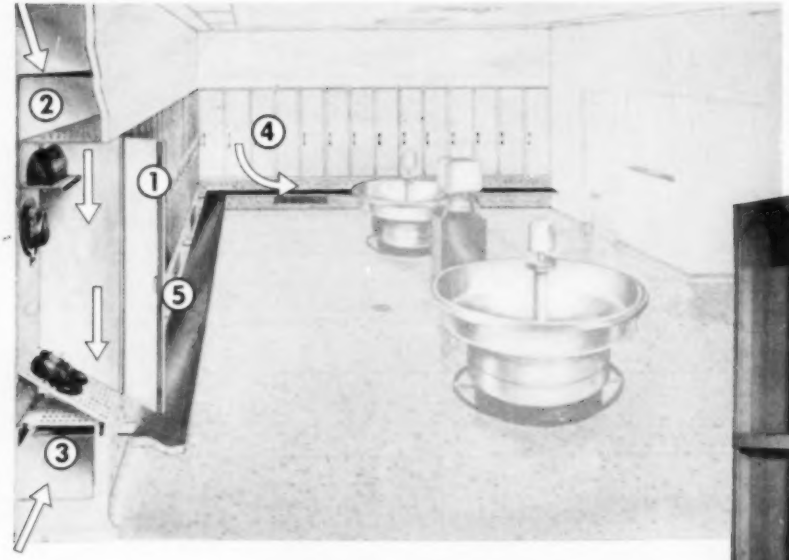
William T. Snaith, President
The Raymond Loewy Corporation

modern design and Canvas

Among the materials which help contemporary architecture achieve its purpose of combining function with beauty, none can match CANVAS in providing maximum design flexibility. Awning fabrics lend color and texture to both interiors and outer features, permit greater freedom in the use of glass by economically solving problems of solar heat control.

The Loewy Corporation chose Canvas Awnings to meet the Lord & Taylor standard for fashion and decor, blending them gracefully into an outstanding modern store design.

CANVAS AWNING INSTITUTE
and NATIONAL COTTON COUNCIL
P. O. BOX 18 MEMPHIS, TENN.



Check the features of these Scott-designed "AIRFLOW" lockers:

1. Solid doors allow no odors to enter or escape.
2. Top plenum through which fresh air enters.
3. Base plenum through which stale air is exhausted.
4. Exhaust vent in locker island base carries off humid stale air.
5. Benches supported from the island base for convenience in cleaning.

Something new in Locker Room Planning

NOW YOU CAN introduce self-contained ventilation into lockers without forcing stale air into employee locker rooms.

Your client knows it's good business to make his plant a pleasant, efficient place. Employee morale rises, absenteeism and costs are reduced. Odor-filled locker rooms have always been a plant problem area. To keep fresh air in these rooms, individually ventilated lockers are essential.

Developed by the Scott Washroom Advisory Service, new "AIRFLOW" lockers, equipped with solid doors, are designed to prevent unpleasant work clothing odors from escaping into the locker room area. Mechanical ventilation draws fresh air into each locker from the top plenum, forces stale air out the base plenum.

This is another example of the aid Scott Washroom Advisory Service Consultants offer to you who plan personal service rooms. This know-how gained from servicing more than half a million washrooms, is yours for the asking.

Contact Scott Washroom Advisory Service, Scott Paper Company, Chester, Penna.

Send for FREE Leaflet...
"Plant Washroom Designing"

Washroom Advisory Service, Dept. PA-5
Scott Paper Company
Chester, Pennsylvania

At no cost or obligation, please send me your study of personnel, traffic and maintenance problems, *"Plant Washroom Designing."*

Name_____

Company_____ Title_____

Address_____

City_____ Zone_____ State_____

SCOTT
Symbol of Modern Washrooms

Trade Mark "Washroom Advisory Service" Reg. U. S. Pat. Off.

He knew what he wanted

BUT NEEDED HELP TO GET IT . . .

. . . clients think in terms of end results. They need suggestions for specific materials and methods best suited to develop their plans. The solution calls for your experience and know-how — aided by up-to-the-minute file reference information.

We want you to be familiar with RUBBER Flexi-Flor and Wall-Flex — know the exclusive advantages of cushioned resilience, beauty of color and design range, low maintenance and lifetime durability. Quick reference can suggest applications and utilization that benefits you by assuring jobs of outstanding success and satisfaction.

Take advantage of Flexi-Flor and Wall-Flex in your specifications — R.C.A. is the *only* line for *complete* rubber installations.

WALL-FLEX

walls of rubber. New—exclusive—flexible 1/16" gauge fabric-back rubber in 28 colors. Simple, quick, one-man installation with the advantages of continuous corners and curved surfaces, sanitation, low maintenance and economy. You'll want to include the versatility and colorful beauty of Wall-Flex in your plans.

FLEXI-FLOR

floors of rubber. Available in 28 colors, sheet or tile form, 3/32", 1/8" and 3/16" gauges. This complete range meets a diversification of uses in addition to floors—counter tops, display tables, drainboards, desk tops, counter facings, etc.

ACCESSORIES

design-planned to complete the ensemble. Feature strips —borders—cove base—corners—and tread runners in the same 28 colors, stair treads for residential and commercial use — all of the same dependable R.C.A. rubber. Everything you need for complete planning.

Time-tested for:
HOSPITALS
OFFICES
APARTMENTS
HOTELS
BANKS
SCHOOLS
STORE
CHURCHES
RESTAURANTS
RESIDENCES

RUBBER

SWEET'S Architectural — or write for full color brochure, samples and installation folder.

R·C·A

FLEXI FLOR FLOORS of RUBBER

WALL FLEX WALLS of RUBBER

"the more we're together . . . the happier you'll be"

THE R. C. A. RUBBER COMPANY 1850 E. MARKET STREET AKRON 5, OHIO

AEROFIN

Heat-Transfer Surface

Aerofin is sold only by manufacturers of nationally advertised fan system apparatus. List on request.

- **High Efficiency**
- **Long Service Life**
- **Low Maintenance Costs**

You are assured of high efficiency in heating or cooling — long service life — low maintenance and service costs, when you specify Aerofin extended-surface heat exchangers.

The reason is obvious: Aerofin makes heat exchangers *exclusively* — offers you the results of unequalled experience, unequalled production facilities, unequalled materials testing and design research — and the guidance of a complete, highly skilled engineering staff, at the plant and in the field.

For the most practical solution to your heat-exchange problem, ASK THE AEROFIN MAN.

AEROFIN CORPORATION 410 South Geddes St. SYRACUSE 1, N. Y.

COLO for colored concrete floors and sidewalks use COLORUNDUM

trowelled into the fresh concrete topping

Colorundum central fire station floor

All over the nation modern building design now includes the use of Colorundum in colored concrete floors, sidewalks, roof decks, industrial and other walkways and driveways. Colorundum is used widely in exteriors or interiors . . . as a wear-resistant and colorful concrete topping of long life . . . at practically the average cost of ordinary concrete. Decorative color combinations are often employed of red, maroon, brown, green, dark green, french grey, black. Colorundum is a dry powder ready for use, composed of coloring mediums, fused aggregates, water-repellent and hardening elements. Colorundum is dusted on and floated and trowelled into the fresh concrete topping. The non-slip, non-metallic surface makes it an ideal flooring on new concrete or when replacing old concrete floors or sidewalks.

Colorundum power plant floor

Colorundum industrial floor

HORN

A. C. HORN COMPANY, Inc. est. 1897

Manufacturers of materials for building maintenance and construction
LONG ISLAND CITY 1, N. Y. • Los Angeles • San Francisco • Houston
Chicago • Toronto SUBSIDIARY OF SUN CHEMICAL CORP.

A. C. HORN COMPANY, INC.,
Long Island City 1, N. Y.
Please send me ☐ complete data on COLORUNDUM

HORN

☐ free copy of your 96-page Construction Data Handbook

PA-2

NAME_____ TITLE_____

FIRM NAME_____

ADDRESS_____

CITY_____ STATE_____

Sylvan Bien
Architect
Weinberger & Weisboff
Structural Engineers
Hegeman-Harris Co., Inc.
General Contractors
260 Madison Avenue Corp.
Owners

they saved steel WITH FLOORS AND FLOOR FILL OF WAYLITE CONCRETE

The use of Waylite aggregate for the 500,000 square feet of floors and another 350,000 square feet of floor fill in 260 Madison Avenue Building, New York saved much dead weight. This in turn permitted economies in steel design.

Other advantages due to Waylite in this new structure that will house "the aristocracy of business" include better ceiling heights; and prevention of the transmission of sound.

In other buildings, exposed Waylite masonry walls are sought because they need no acoustical treatment. Or because Waylite has important thermal insulation values.

Waylite's many advantages and its varied decorative treatments are discussed in an illustrated data book, which appears in Sweet's. Or ask for a copy by addressing The Waylite Co., 105 W. Madison St., Chicago 2, or Box 30, Bethlehem, Pa.

WAYLITE
LIGHTWEIGHT AGGREGATE

FAMOUS-BARR
assures
CUSTOMER COMFORT

with **kno·draft** adjustable air diffusers

Keep customers comfortable and department store sales go up. That's been proved time and again. So, in the new Southtown store of Famous-Barr Co., St. Louis, you'll find Kno-Draft *Adjustable* Air Diffusers.

Kno-Draft *Adjustable* Air Diffusers can be set for exact control of both volume and direction of air flow. This means even distribution of heat, *without drafts*, throughout the conditioned area. And because they are adjustable *after* installation, it's no trouble to vary the air pattern when changed conditions call for it. This feature also eliminates much preliminary figuring by engineers and installers — makes a foolproof system.

Note, too, the handsome appearance of Kno-Draft *Adjustable* Air Diffusers. They are as unobtrusive as they are efficient — go with any surroundings, either in their natural spun metal finish or painted to match the ceiling. There are types and sizes to meet every need. Mail the coupon for full information today.

TRADE MARK "KNO-DRAFT" REG. U. S. PAT. OFF.

W.B.CONNOR ENGINEERING CORP.
Danbury, Connecticut
Air Diffusion • Air Purification • Air Recovery
In Canada: Douglas Engineering Co., Ltd.,
190 Murray Street, Montreal 3, P. Q.

W. B. CONNOR ENGINEERING CORP.
Dept. V-52, Danbury, Connecticut

Please send me the *new edition* of the Kno-Draft Data Book—without obligation, of course.

Name.....

Position.....

Company.....

Street.....

City.....**Zone**.....**State**.....

For tough assignments, specify Roddiscraft solid core flush doors

For
HOSPITALS
SCHOOLS
APARTMENTS
HOTELS
INSTITUTIONS

Doors lead a tough life in public buildings. Roddiscraft Solid Core Flush Veneered Doors are built to take it.

FIRE RESISTANT — exceed a regular fire test for over 40 minutes. Provide extra protection where needed in multiple and single dwelling units.

SOUND RESISTANT — develop an average sound transmission loss of 30.9 decibels — only a little less than specially constructed sound retardant doors of much greater cost.

RESISTANT TO ABUSE — core, crossbandings and face veneers welded into a single unit with the inherent strength of true plywood construction.

WATERPROOF — for exterior and interior use. Phenolic resin glue provides two completely waterproof shields over entire area of the door on each side of the core.

STANDARD THICKNESS FACE VENEERS — provide greatest resistance to checking and abuse — permit better matching.

Specify Roddiscraft Solid Core Flush Veneered Doors for the tough assignments.

NATIONWIDE Roddiscraft WAREHOUSE SERVICE

Cambridge, Mass. • Charlotte, N. C. • Chicago, Ill. • Cincinnati, Ohio • Dallas, Texas • Detroit, Michigan • Houston, Texas • Kansas City, Kan. • New Hyde Park, L. I., N. Y. • Los Angeles, Calif. • Louisville, Ky. • Marshfield, Wis. • Milwaukee, Wis. • New York, N. Y. • Port Newark, N. J. • Philadelphia, Pa. • St. Louis, Mo. • San Antonio, Texas • San Francisco, Calif.

Roddiscraft

RODDIS PLYWOOD CORPORATION

Marshfield, Wisconsin

A Booklet Architects Will Welcome ...The Only One Of Its Kind

NEW...BOOKLET SHOWS HOW TILE IN INDUSTRY CAN BOOST *Morale*...CUT *Maintenance*

For some time we have felt that there was need for some literature to which architects could refer when planning tile installations for industrial buildings. Now, for the first time, it's available. American-Olean's new Booklet 300 gives you all the facts, in concise, complete form.

This new booklet shows you how and why plant rest areas can work for management, boosting morale and reducing maintenance costs.

You will find page after page of full color photographs of actual installations in plants such as Esso, Standard Oil and Standard Pressed Steel Co. A group of color combinations of floor and wall tile especially selected for industrial and institutional use is shown, complete with specifications.

A copy of this booklet is being mailed direct to most architects. If you have not received yours, or if you would like additional copies, we will be glad to send them to you.

American-Olean Tile Company

AMERICAN-OLEAN TILE COMPANY
960 Kenilworth Avenue, Lansdale, Pa.

Gentlemen:

Please send me, without obligation, my copy of your new booklet on Modern Industrial Washrooms.

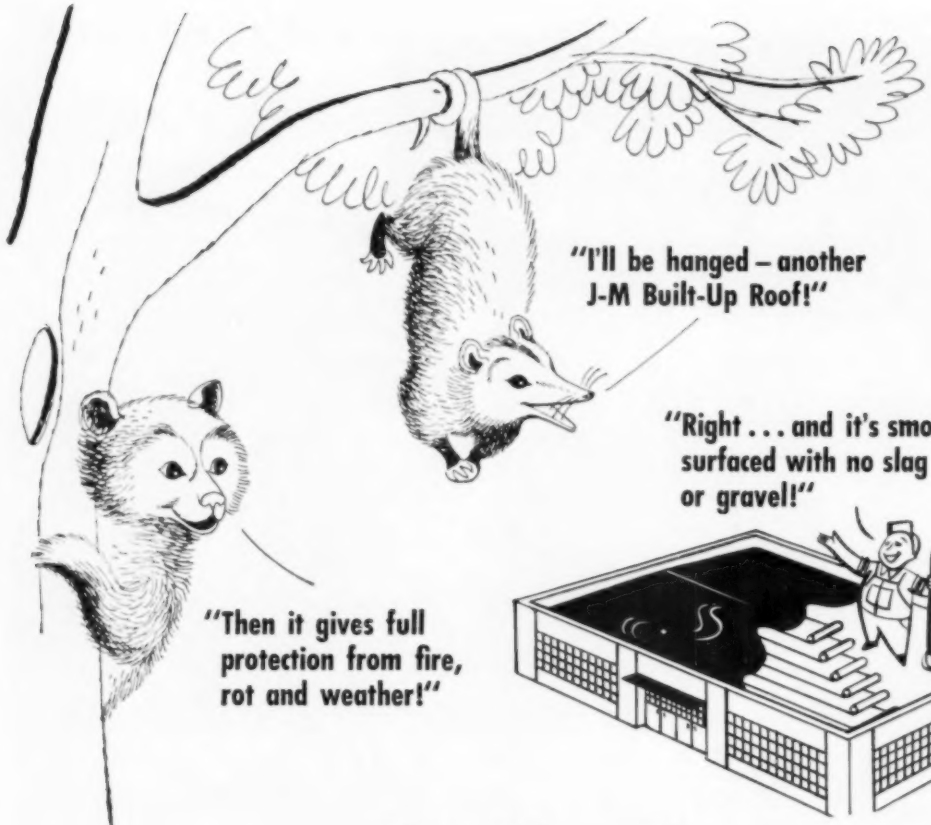
*Name*_____

*Title*_____

*Firm Name*_____

*Address*_____

*City*_____ *State*_____


"I'll be hanged – another J-M Built-Up Roof!"
"Right . . . and it's smooth-surfaced with no slag or gravel!"
"Then it gives full protection from fire, rot and weather!"

Yes—it's a Flexstone* Roof

Each ply is a flexible covering of stone!

● The secret of a Johns-Manville Flexstone Built-Up Roof is in the *felts*. They're made of fireproof, rotproof, weatherproof, enduring *asbestos*.

Flexstone Built-Up Roofs won't dry out from the sun . . . need no periodic coating. They're *smooth-surfaced*, too—permit thorough drainage, make any damage easy to locate and repair. They are engineered to each job . . . applied only by *J-M Approved Roofers*. J-M Asbestos felts are perforated to make application easier, give a smoother job, conform better to roof decks.

For your added protection, the Johns-Manville Asbestile* System of flashing insures proper treatment of all critical areas. Asbestile is a heavy-bodied plastic cement designed for use with asbestos flashing felts to give thorough watertightness. As it sets, Asbestile becomes hard and forms an integral part of the wall itself.

Send for brochure BU-51A. Contains complete specifications for Flexstone Roofs and Asbestile Flashing System. Johns-Manville, Box 158, Dept. PA, N.Y. 16, N.Y.

JM PRODUCTS

*Reg. U.S. Pat. Off.

Made of ASBESTOS

Johns-Manville *FLEXSTONE* Built-Up Roofs

ASBESTOS CORRUGATED TRANSITE* • ACOUSTICAL CEILINGS

DECORATIVE FLOORS • MOVABLE WALLS • ETC.

smithcraft presents

area illumination

a completely new approach to overall lighting

AREA ILLUMINATION by Smithcraft is a completely new approach to overall lighting. It permits the architect unparalleled "freedom of expression" in the integrating of lighting within interior design. In effect, AREA ILLUMINATION is a lighting system which when installed becomes a lighting "fixture" of limitless dimensions and patterns, with an endless choice of shielding media. Here is a "fixture" which is not "custom-built" to each installation, yet permits selection of varied lighting intensities with any method of shielding. Its cost is comparable to that of a suspended ceiling and troffer system . . . its simplicity of installation and ease of maintenance are entirely new developments in overall lighting.

a complete fluorescent lighting system that gives the architect and engineer . . .

freedom of SIZE
freedom of PATTERN
freedom of INTENSITY
freedom of SHIELDING
freedom of PERIPHERY

. . . and more . . .

it's ECONOMICAL, EFFICIENT and extremely EASY TO INSTALL!

Smithcraft *America's finest fluorescent fixtures*

LIGHTING DIVISION
CHELSEA 50, MASSACHUSETTS

DEPT. C

SEND FOR MORE INFORMATION ON AREA ILLUMINATION

NAME _____
FIRM _____
ADDRESS _____

another **HOMASOTE FIRST** — *designed to reduce the cost of building*

SHEATHING and SHINGLING *in ONE Operation*

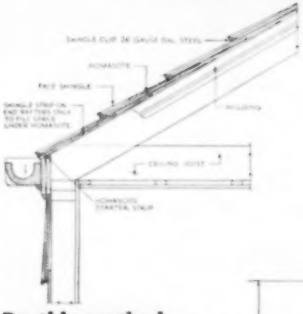
with the revolutionary Nova Insulated Sidewalls and Roofs

Wide exposures—up to 12″ on roofs and 14″ on sidewalls—with ¾″ shadow lines—have long been accepted as the highest standard in architectural design and exterior beauty.

Now you can give your client these big advantages—plus complete sheathing—together with major savings in materials, time and labor.

Three fully tested products make possible this revolutionary new method of shingling and sheathing at one and the same time . . . First, the patented Nova Shingling Clip. Second, a panel of *weatherproof* insulating-building board. Third, a shingle of the finest cedar. Installation time: more than 1/3 less. Two men can sheathe and shingle the sidewalls of the average small home in one day!

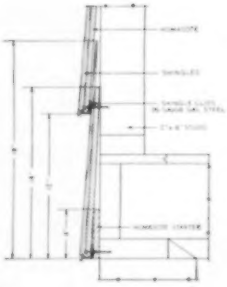
Obviously, the details of a system as revolutionary as this, cannot be covered on a single page. Let us send you a fully illustrated folder with complete construction details. The coupon below will save your time.



NOTE: *The window pictured above is the wholly new Nova-Vita Insulated Sliding Window—the Thermopaned window with reinforced Neoprene frame and Fiberglas track—that has its own screen and requires no storm sash. For details address Department NV.*

By this method . . .

- 14″ EXPOSURES FOR SIDEWALLS
- 12″ EXPOSURES FOR ROOFS
- DEEP SHADOW LINES
- NO NAILS IN SHINGLES
- MAJOR SAVINGS IN MATERIALS, TIME AND LABOR



Another group of NOVASCO PRODUCTS

IN PREPARATION: THE NOVA SYSTEM FOR ASBESTOS SHINGLES

NOVA SALES Co. TRENTON 3, N. J.

SEE OUR CATALOG IN SWEET'S

A wholly-owned subsidiary of Homasote Company—manufacturers of the oldest and strongest insulating-building board; wood-textured and striated panels.

NOVA SALES CO., Trenton 3, N. J., Dept. 74A

Send full details on Nova *Insulated* Sidewalls and Roofs.

NAME.....

ADDRESS.....

CITY & ZONE..... STATE.....

My lumber dealer is.....

Classroom of George Elementary School, Portland, Oregon. Architect, Donald W. Edmundson, A. I. A.

Build Distinctive, Economical Classrooms

with
readily available
GLULAM
TIMBERS

Here's a classroom designed to give the youngster a pleasant start in his school career. It's designed to save construction costs, too. For the concealed glulam beams are the only structural members required for both roof and ceiling.

There are no better structural members for classroom construction than glulam timbers. Initial costs are moderate. Maintenance is negligible. Formed of thoroughly seasoned material, they are dimensionally stable and free from seasoning action. They are highly resistant to destruction by fire, especially during the early stages, affording opportunity for orderly evacuation.

Glulam beams are available in large or small quantities and delivery can be made on short notice.

To learn more about these modern timbers and their application in school construction, ask us for the booklet, "Modern Functional Schools". Use the coupon.

TIMBER STRUCTURES, INC.

P. O. Box 3782-Q, Portland 8, Oregon

Offices in New York, Chicago, Detroit, Kansas City, Dallas, Seattle, Spokane

TIMBER STRUCTURES, INC. OF CALIFORNIA • Oakland, California
TIMBER STRUCTURES OF CANADA, LTD. • Peterborough, Ontario

Local Representatives Throughout the United States and Canada

TIMBER STRUCTURES, INC.
P. O. Box 3782-Q, Portland 8, Oregon
Please send me your booklet, "Modern, Functional Schools"

Name _____

Company _____ Position _____

Address _____ Zone _____

City _____ State _____

Now you see it . . . Now you don't . . .

One minute a modern, compact kitchen . . . the next, a dining room with a graceful, folding backdrop. Magic? No. Just another use for "Modernfold" doors.
Architect F. J. Hinton designed the Martinique Apartments for Forman Construction Company of Milwaukee (1) to make every inch of floor space count, and (2) to do it beautifully. To get one door to do both jobs, he specified "Modernfold"—the original, space-saving folding door.

Your ideas come to life . . . for life with "MODERNFOLD" doors

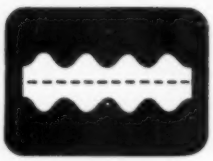
You're sure to keep clients happy when you specify "Modernfold"—the original folding door. Why? Because no other folding door *anywhere* equals "Modernfold" for quality of design . . . for quality and strength of materials.

Your clients will like space-saving "Modernfold" doors because they last longer, look better, operate easier. You'll like specifying "Modernfold"—because the line is so complete. You can get exactly what you need in a "Modernfold" door for every closure or space division problem.

Sold and Serviced Nationally

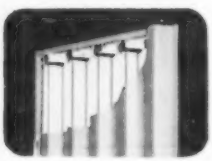
NEW CASTLE PRODUCTS, NEW CASTLE, INDIANA

In Canada:
Modernfold Doors, 1315 Greene Avenue, Montreal



Only "MODERNFOLD" Doors
have center-line design—the same number, same type, same size hinges . . . both top and bottom . . . on both sides *of the track.*

Better Looking
Fabric covering completely conceals all operating mechanism—no cornice needed to hide track, trolleys and hinges.



Longer Lasting
"Modernfold" doors have more *steel hinges both at top and bottom; more steel in each hinge; more vertical steel rods.*

YOU CAN'T GET MORE IN A FOLDING DOOR

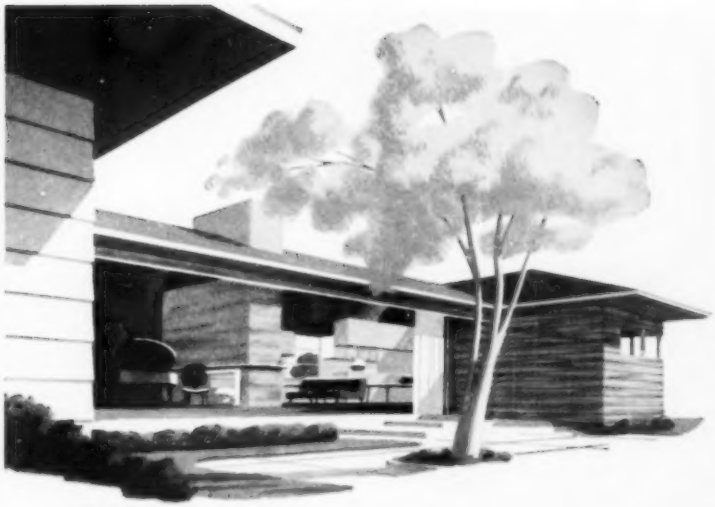
COPYRIGHTED NEW CASTLE PRODUCTS, 1952

New Castle Products
Box 855
New Castle, Indiana
Gentlemen:
Please send me full details on "Modernfold" doors.

Name.....

Address.....

City.....*County*.....*State*.....



GPX... *food for thought*

GPX, the plywood and plastic sandwich that inspires new forms of architectural expression, offers you food for thought.

Tough, smooth, rugged . . . interesting in color and texture . . . lightweight, yet strong . . . GPX provides cost-cutting solutions to many problems.

Natural Grade GPX offers the warmth of wood beauty, plus extreme resistance to abrasion, acids, molds, fungi, heat and water. GPX Paint Grade . . . White for *interior* use . . . Brown for *exterior* use . . . presents a superior paint surface, with no checking, little or no grain-raise and requires no undercoat.

GPX plays a leading role in such diverse uses as repetitive concrete forms, exterior house siding, boat decks and bulkheads, built-in cabinets, display fixtures, outdoor furniture, and hundreds of other industrial and construction uses. You'll like its versatility, durability and economy, too. Ask your dealer about GPX, or send for descriptive GPX folder and product sample.

GEORGIA—PACIFIC

PLYWOOD COMPANY

609-5 North Capitol Way, Olympia, Wash.

OFFICES OR WAREHOUSES IN: Augusta, Birmingham, Boston, Chicago, Columbia, Detroit, Lancaster, Louisville, Memphis, Nashville, Newark, New Hyde Park, Olympia, Orlando, Philadelphia, Pittsburgh, Providence, Raleigh, Richmond, Savannah, Vineland.

GPX NATURAL GRADE

Beautiful, satin-smooth panels of GPX are ideal for dramatic natural wood wall paneling. Use it for sliding doors, built-in cabinets, flush panel cupboard doors, wainscoting garage doors and siding—wherever a permanently finished wood surface is specified.

GPX WHITE PAINT GRADE (INTERIOR)

Manufacturers of kitchen cabinets and cupboards have saved as much as 5¢ a foot and cut labor time in half with GPX White Paint-Grade. GPX's prefinished surface eliminates sanding and priming—one coat of enamel usually covers! Use GPX for all painted surfaces such as shelves, table tops, closets, laundry and workroom cabinets.

GPX BROWN PAINT GRADE (EXTERIOR)

GPX Brown Paint Grade for exterior uses fits today's trend toward ranch style homes. It can be sawed into wide widths and applied as lapped siding, or the lightweight, easy-to-install panels can be used with horizontal or vertical battens to vary architectural treatment. Laboratory tests indicated that GPX's smooth, hard surface covers evenly with less paint, extends its life 50%.

GPX CONCRETE FORM GRADE

Users of GPX for concrete forms obtain up to *50 repeated uses* of one side of a GPX panel, with similar results from the other side! And GPX doesn't stop cutting costs there: ceilings poured into GPX forms set so smoothly that costly hand finishing is virtually eliminated, and no plastering is necessary before painting.

. . . and for temperature control, I'll insist on Honeywell!

Looks like the budding architect in Steig's cartoon wants to be sure his "make-believe" building is going to be comfortable! For, as his older architect friends probably advised him, he knows the *surest* way to make any building comfortable is to insist on Honeywell controls.

If *you* have a control problem, Honeywell can help you solve it. We can provide the proper thermal environment for any client—anywhere—in any kind of structure.

A large staff of well-informed control engineers—in 91 different Honeywell offices across the nation—are experienced in doing just that. Or—there's a lot of literature that's yours for the asking—on the automatic control of heating, ventilating and air conditioning.

So, why not *talk to Honeywell?* Why not *write to Honeywell* about *your* control problem?

Honeywell controls are available for all buildings—large, small, commercial or residential. See the facing page for interesting facts about some of these fine Honeywell controls.

H HONEYWELL

For help with any control problem talk to Honeywell

for offices, stores, restaurants, laboratories

Specify Honeywell Electronic Air Conditioning Control

Give your clients the ultimate in comfort—and increased efficiency, lower maintenance costs

Now, with this completely new type of air conditioning control, you can offer clients comfort and operating efficiency never before possible!

You see, this new Honeywell system electronically "feels" temperature changes as they occur and then gives *fast*, accurate modulating control over heating and air conditioning dampers or valves.

And because it is *electronic*, it's 100 times more sensitive than conventional systems! This means faster reaction to changes in load; no temperature "overshoot"; no waste of either warm or cool air.

It *allows new methods of operation* so equipment can be utilized at *peak* efficiency at all times! For example, change-over from heating, ventilating and cooling is accomplished smoothly without "jumps" in the control point. Its *flexibility* allows selection of the most economical sequencing of valves and dampers. And the *simplicity* of Honeywell's electronic thermostat cuts maintenance costs to a bare minimum.

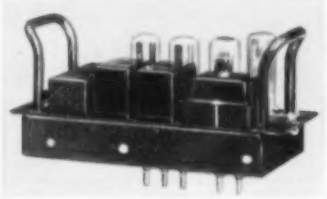
Your selection of this new Honeywell *electronic* air conditioning control is sure to produce greater client satisfaction, once they experience its wonderful comfort and low maintenance costs!

MINNEAPOLIS **Honeywell**

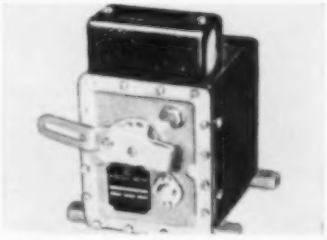
First in Controls

Room Thermostat. *No moving parts to wear out or get out of adjustment.*

Duct and Immersion Thermostat. *Measures temperatures accurately from -50 degrees to 300 degrees F.*



Electronic Relay. *Here's the famous "brain" that measures thermostat signals, operates the valves and dampers.*



Modulating Motor. *Slightest temperature fluctuation causes motor to change valves or dampers.*

... and for help with the temperature control, I'll talk to (your firm name)

FREE—personalized cartoon. For your 8½" x 9" reproduction of this Steig cartoon (incorporating your name or the name of your firm), fill out and mail coupon today

MINNEAPOLIS-HONEYWELL REGULATOR CO.
Dept. PA-5-115, Minneapolis 8, Minnesota
Gentlemen:

☐ Please send me your booklet "New Horizons of Comfort with Honeywell Electronic Air Conditioning Control."

☐ Please send me a free personalized reproduction of the Steig cartoon, inscribed with following name _____

Name _____

Firm Name _____

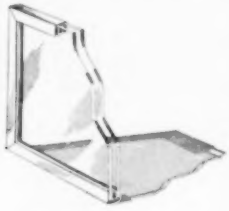
Address _____

City _____ Zone _____ State _____

Pittsburgh Glass

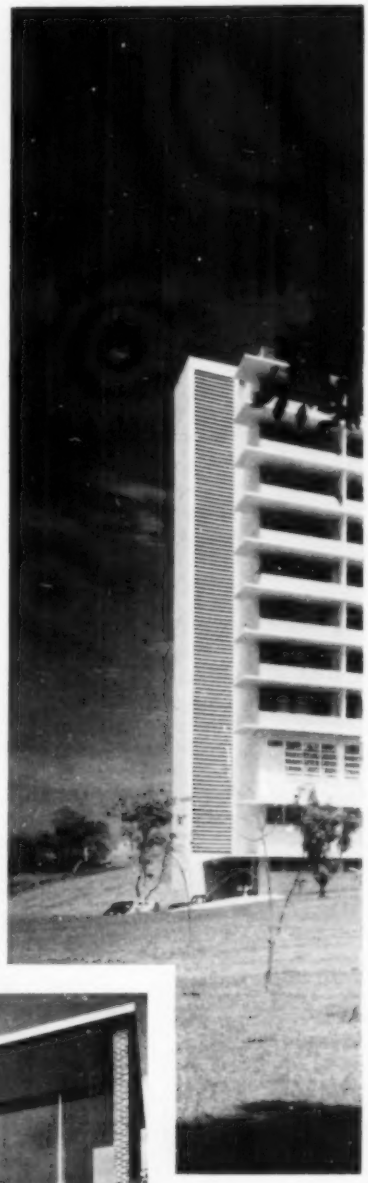
offers wide latitude in design

PITTSBURGH Polished Plate Glass and Twindow, Pittsburgh's window with built-in insulation, were effectively used in this new building of the United Engineering and Foundry Company, Pittsburgh, Pa. Twindow's insulating properties make it ideal for large expanses of glass. Cold spots and downdrafts are minimized. It reduces heating costs, decreases load on air-conditioning equipment, helps maintain desired temperature and humidity levels. Architects: Palmgreen, Patterson & Fleming, Pittsburgh, Pa.

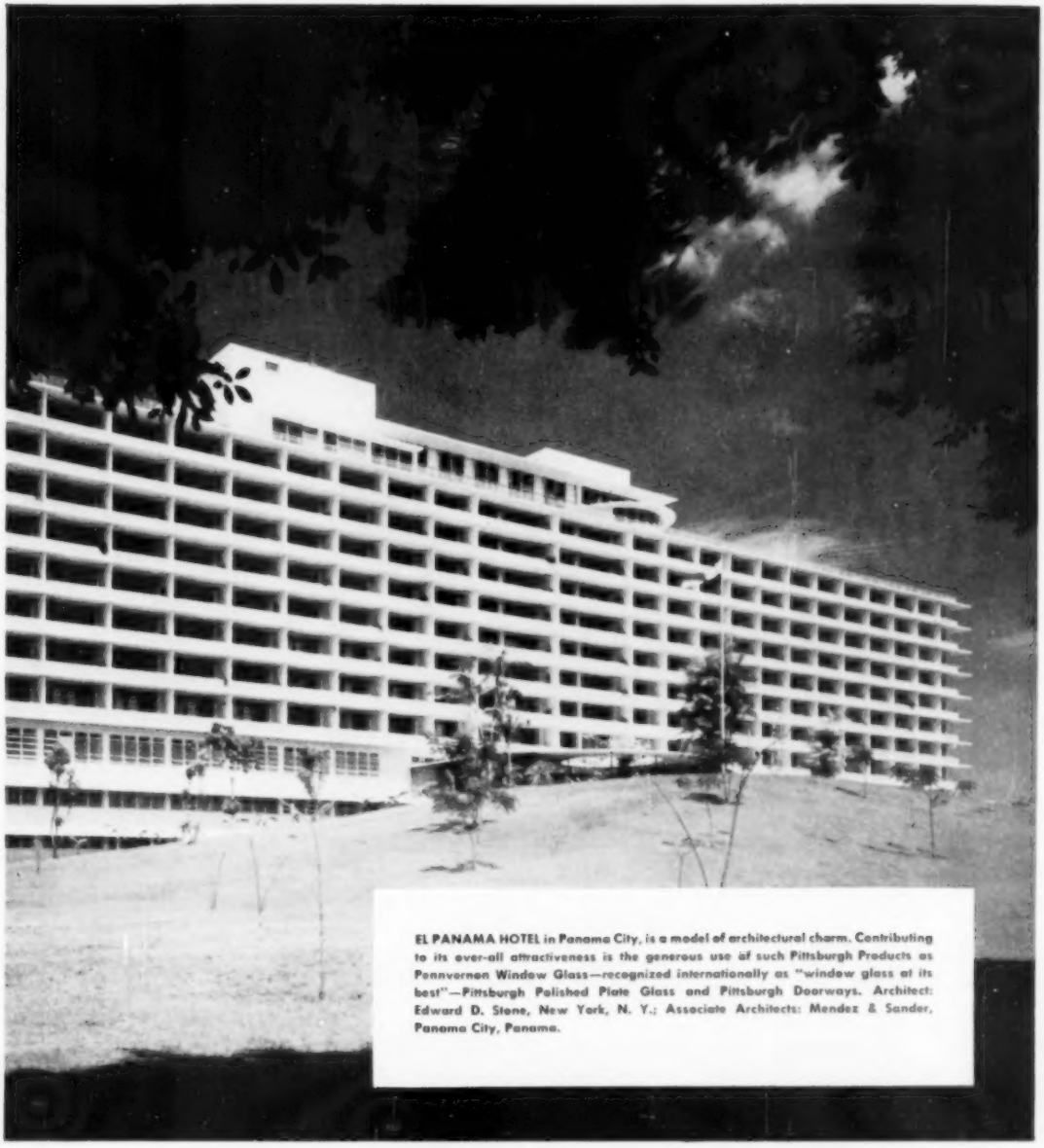


TWINDOW consists of two or more panes of Pittsburgh Polished Plate Glass, separated by hermetically-sealed air spaces. The entire unit is enclosed in a long-lasting, protective frame of stainless steel. Forty-seven standard Twindow sizes are available.

COLORFUL CARRARA Structural Glass adds beauty and utility throughout the home. It is perfect for walls, wainscots and ceilings of kitchens and bathrooms as well as for fireplace surrounds, shelves and window sills. In this kitchen Carrara Glass was used for the walls and ceiling. There are ten beautiful colors to choose from.



SOLEX, a heat-absorbing Plate Glass, was selected for glazing the windows of the Library and Administration Building of Cameron State College at Lawton, Oklahoma. Solex admits ample light into rooms, but keeps out much of the heat and brightness of the sun. It is particularly desirable for windows on the southern and western exposure of hospitals, hotels, office buildings, airport control towers, and in laboratories and warehouses. Architect: Paul Harris, Chickasha, Oklahoma.



EL PANAMA HOTEL in Panama City, is a model of architectural charm. Contributing to its over-all attractiveness is the generous use of such Pittsburgh Products as Pennvernon Window Glass—recognized internationally as "window glass at its best"—Pittsburgh Polished Plate Glass and Pittsburgh Doorways. Architect: Edward D. Stone, New York, N. Y.; Associate Architects: Mendez & Sander, Panama City, Panama.

Design it better with **Pittsburgh Glass**

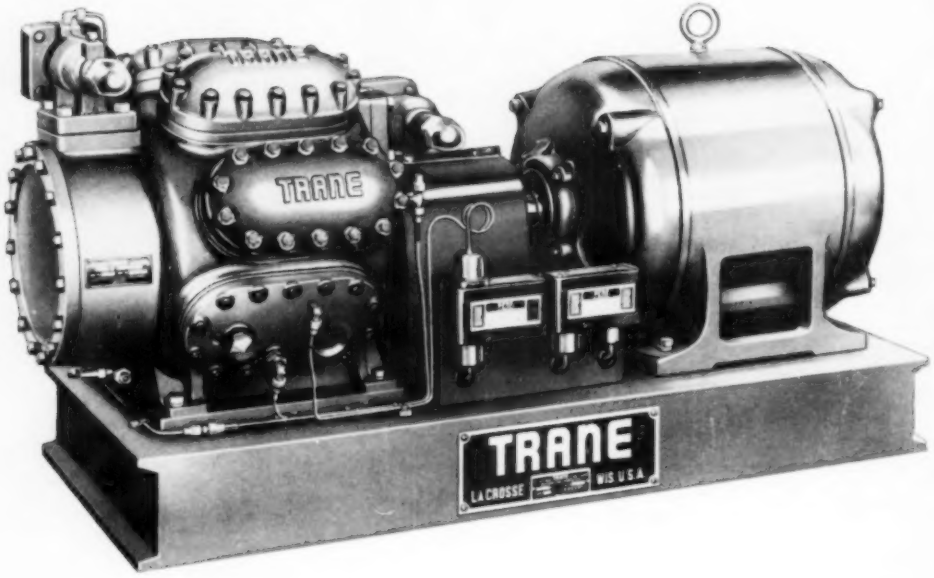
Your Sweet's Catalog File contains detailed information on Pittsburgh Plate Glass Company products.

PAINTS · GLASS · CHEMICALS · BRUSHES · PLASTICS

PITTSBURGH PLATE GLASS COMPANY

MODERN DESIGN FOR

TRANE refrigeration



Now! New 15 and 20-Ton Self-Contained Air Conditioners

A Complete System in an Easy-to-install Package

Everything for complete air conditioning—compressor, condenser, evaporator and fans—in one compact unit. Factory engineered, built and assembled so only simple water piping and electrical connections are required. Available with water cooled or evaporative condensers built right into the unit. For the consulting engineer—an easy-to-specify, easy-to-install unit on the medium sized job. For the heating contractor—an easy way to get into the profitable air conditioning business.

MANUFACTURING ENGINEERS OF AIR CONDITIONING, HEATING

PLUS PERFORMANCE—

for air conditioning

Now, more than ever before, TRANE provides a single, reliable source for creating the weather conditions demanded by today's building design. TRANE refrigeration and air conditioning products including coils, units of all kinds and fans, are designed together and built together for use together.

In the complete TRANE line there are both centrifugal and reciprocating compressors—offering a wide range of capacities from 3 to 200 tons. What's more, TRANE offers you *both* types of compressor equipment so that you can select precisely the kind of equipment that is right for your job.

Power saving unloader operation! Drastically reduced valve wear!

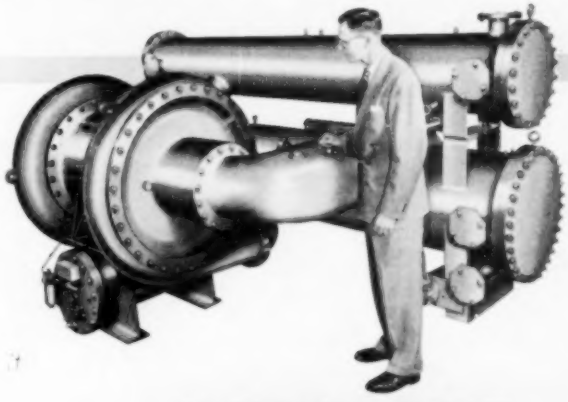
TRANE RECIPROCATING COMPRESSOR

This new masterpiece of modern design provides reduced power requirements as air conditioning loads are reduced—provides smoother, quieter operation over a longer period of time.

Cylinder loading and unloading is completely automatic as loads increase or decrease. Special design keeps refrigerant always free of dirt and oil.

Available with condenser mounted on top. In sizes up to 50 tons.

See TRANE Bulletin DS-361 for further information.



TRANE CenTraVac

First hermetically sealed centrifugal compressor! First in capacities as low as 45 tons! Capacities range from 45 to 200 tons. When air conditioning loads are reduced the TRANE CenTraVac automatically responds with lowered power consumption. This means power economies.

TRANE

THE TRANE COMPANY, LA CROSSE, WIS.
Eastern Mfg. Division, Scranton, Pa.
Trane Company of Canada, Ltd. . . .Toronto
Offices in 80 U.S. and 14 Canadian Cities

AND VENTILATING EQUIPMENT

What do you in roof insulation?

Economy? Inch for inch of thickness no other type of roof insulation can compare with Insulite's low cost for adequate thermal insulation value! *Nothing* takes the place of Insulite for *quality* and *price!*

Proof of performance? The first fiberboard roof insulation jobs in the world were applied with Insulite. Many of them are now nearly forty years old and appear just as sound as the day they were applied!

But these are only two of the advantages to be gained in specifying Insulite Roof Insulation. Here are some other reasons why we think you'll like Insulite best:

Withstands traffic. See for yourself. Ask your Insulite sales representative for a sample. Then test it. See how strong and rigid it is! That's because Insulite, the original fiberboard roof insulation, is made only from hardy Northern wood fibers!

Handles without breaking. This is one of the big reasons roofers like Insulite Roof Insulation. The strong, rigid sheets are built to withstand the rough handling they are subjected to under actual job conditions! There's no fear of breakage with Insulite on the job!

Cuts cleanly and easily. Next time you're out on a job, see how quickly and easily the roofer cuts Insulite. If you have time, talk to him . . . chances are he'll tell you that cutting ease is one of the reasons he likes to work with Insulite Roof Insulation.

Build and insulate with double-duty

INSULITE MADE OF HARDY NORTHERN WOOD

INSULITE, INSULITE AND GRAYLITE ARE REG. U.S. PAT. OFF.

want most

Free roofing facts. Here's the most complete book of its kind! Contents include: (1) Coefficients of Heat Transmission (U) and Thermal Resistance (R) of Various Types of Flat Roofs Covered with Built-up Roofing, (2) Condensation Chart and (3) Fuel and Radiation Requirements Chart. Write for your copy today.

INSULITE DIVISION
MINNESOTA AND ONTARIO PAPER COMPANY
MINNEAPOLIS 2, MINNESOTA

PRODUCT DESCRIPTIONS

INS-LITE

1. Made from strong wood fibers, treated for high resistance to moisture.
2. Color: Natural wood.
3. Edges: Square, except in thicknesses greater than ½", in which case they may be square or offset.
4. Size: 23" x 47".
5. Thickness: ½", 1", 1½", and 2".
6. Fabrication: Glued to 2", stapled to 2", integral to 1".

GRAYLITE

1. Made from strong wood fibers, integrally treated with asphalt for increased strength and high resistance to moisture.
2. Color: Gray-brown.
3. Edges: Square, except in thicknesses greater than ½", in which case they may be square or offset.
4. Size: 23" x 47".
5. Thickness: ½", 1", 1½", and 2".
6. Fabrication: Glued to 2", stapled to 2", integral to 1".

Preston S. Stevens James R. Wilkinson

Stevens and Wilkinson's *Award-winning*

Henry C. Beck Co., General Contractor • Whitehead Electric Co., Electrical Contractor

Down in the deep South, one of the nation's finest examples of contemporary hospital planning and design rises against the Atlanta sky. This striking eight-story, 363-bed addition to the original Georgia Baptist Hospital (194 beds) has earned wide acclaim for its planning group. The American Institute of Architects has presented Awards of Merit to architects Stevens and Wilkinson for excellence of design and to the hospital's administrative executives for their help and cooperation.

The building houses new administrative, supply, and medical facilities, sufficient in area and equipment to serve the older hospital, as well as the new patient areas.

The foundation and frame are of reinforced concrete. Exterior walls are faced with brick. An unusual feature is an all-over grid on the east and west walls to protect windows from solar radiation. Concrete "eyebrows" above the windows (formed by extending the floor slabs) are combined with a cross-grid of aluminum louvers. Architects Stevens and Wilkinson estimate that this solar-louver grid saved its cost in air conditioning equipment.

The structure is completely air conditioned and boasts the most advanced types of hospital intercommunication systems.

It's Day-Brite in the waiting rooms

It's Day-Brite in the laboratory

another architect-specified Day-Brite installation

In agreement with the growing emphasis on good lighting in hospital design, Stevens and Wilkinson were extremely quality-conscious when they planned Georgia Baptist's lighting system and selected fixtures.

They reasoned that about 80% of a person's actions are eye-controlled. In the complex operation of a hospital, the staff is faced with many critical seeing tasks that demand accurate, clear vision. Good hospital lighting means faster, better staff performance . . . reduces mistakes and errors . . . keeps morale up and turnover down . . . eliminates fatigue and nervous tension due to eyestrain.

The general lighting in the Georgia Baptist Hospital could easily serve as a model installation—in appearance, in adequate quantity and quality of illumination, in reasonableness of costs.

The entrance, lobby, Memorial Waiting Room and all corridors are lighted with Day-Brite troffers. All-white Day-Brite Viz-Aids* are installed in the pharmacy and all other waiting rooms. In the kitchen and supply rooms, Day-Brite all-white Day-Line* industrial fixtures furnish a high level of illumination for comfortable, easy vision.

And beyond the assurance of year-in, year-out quality lighting performance, Stevens and Wilkinson's choice of Day-Brite guaranteed another must—*minimum maintenance and operating costs.*

But perhaps the most significant approval of Georgia Baptist's lighting installation is included in the words of the hospital's administrator, Mr. E. B. Peel . . . "We feel that this hospital is well planned from the standpoints of utility, economy, and appearance. We are greatly pleased with the results obtained."

A Day-Brite specification can help *you* give *your* clients more lighting per dollar invested. May we show you how?

244

Day-Brite Lighting, Inc., 5465 Bulwer Ave., St. Louis 7, Mo. In Canada: Amalgamated Electric Corp., Ltd., Toronto 6, Ontario.

"DECIDEDLY BETTER"
DAY-BRITE®
Lighting Fixtures

HOLOPHANE DEVELOPS AN ENTIRELY NEW CONCEPT IN LIGHTING

FOR THE ARCHITECT, THE BUILDERS AND THOSE WHO INVEST

ONE OF THE MACOMBER GROUP OF MODERN FABRICATING UNITS

THESE MODERN FACILITIES WILL AMPLY QUALIFY AS YOUR SOURCE FOR STEEL BUILDING PRODUCTS

Here under many roofs is tangible evidence of what men in construction want in their steel source . . . advanced engineering practice; coordinated fabricating beamed at honest delivery dates; ample established credit among suppliers and a clean sales policy. Investigate MACOMBER from any standpoint —in person — if you can and we believe your decision will make Macomber your steel source.

SERVICE IN STEEL
MACOMBER
CANTON OHIO

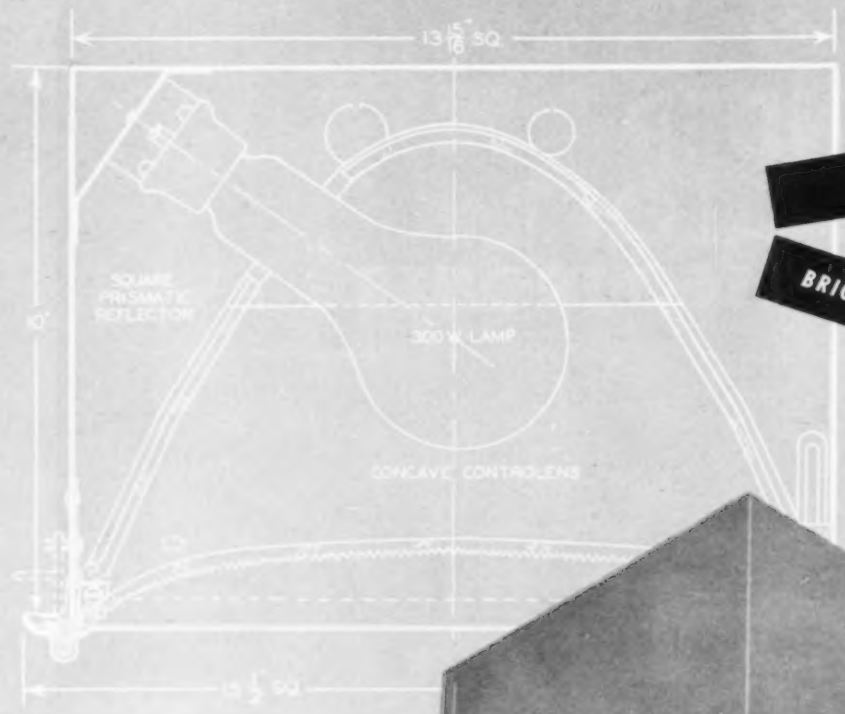
STANDARDIZED STEEL BUILDING PRODUCTS

MACOMBER • INCORPORATED

CANTON, OHIO

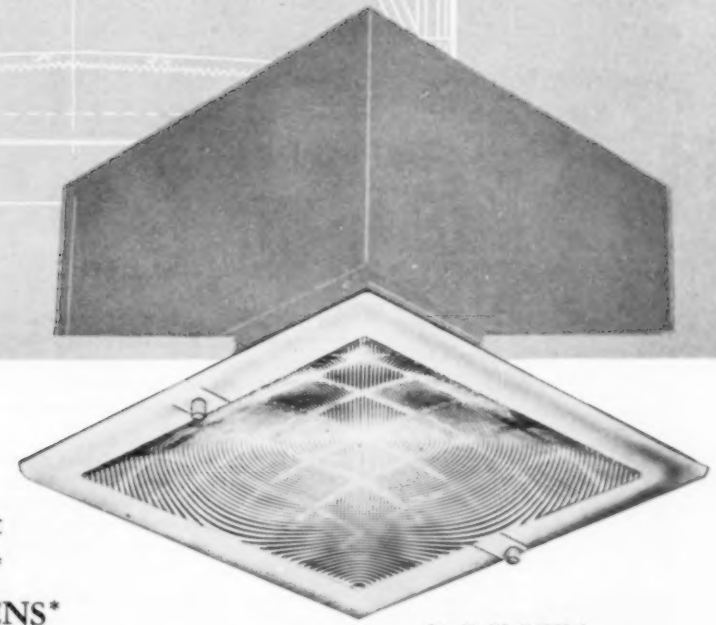
V BAR JOISTS • LONGSPANS • BOWSTRING TRUSSES • STEEL DECK

HOLOPHANE DEVELOPS AN ENTIRELY NEW CONCEPT IN LIGHTING



EFFICIENCY UP 25%

BRIGHTNESS DOWN OVER 50%



No. F-1570 HOLOPHANE In-Bilt Unit with LO-BRITE* Concave CONTROLENS*

- **HIGHER EFFICIENCY . . . Stepped up 25%**
- **LOWER BRIGHTNESS . . . cut by more than 50%**
- **CONCAVE CONTROLENS shields brightness from the observer**
- **LARGER LENS and NARROWER TRIM provide the ideal proportion for distinctive design**

Architects and engineers are invited to write for complete data. No obligation of course.

Specify NO. F-1570 for

CLASSROOMS
OFFICES
DISPLAY ROOMS
STORES
HOSPITALS
PUBLIC BUILDINGS

* Trademark

HOLOPHANE COMPANY, INC.

Lighting Authorities Since 1898 • 342 MADISON AVENUE, NEW YORK 17, N.Y.

THE HOLOPHANE COMPANY, LTD., THE QUEENSWAY, TORONTO 14, ONTARIO

THUNDER ALOFT.. *but* BRASCO FRONTS can take it

Billy Mitchell Shopping Center, San Antonio, equipped thoroughout with Brasco Store Front Settings and Aluminum Entrances.
Architect: Erwin Gerber, Newark, N. J.

Typical Brasco Installation in above group.

IT TAKES real store front stamina to withstand the terrific vibration generated by scores of planes roaring overhead. Yet even the largest plates of glass in the Billy Mitchell Shopping Center remain intact. Located adjacent to one of San Antonio's largest military airfields, the problem of structural safety has been permanently solved with Brasco Store Fronts and Entrances.

In addition, the modern Brasco shapes utilized blend beautifully with the entire architectural concept. Here is functional design admirably executed . . . convincing testimony to the superiority of Brasco Construction for every store front requirement. Special effects are easily obtained with stock members, readily available in both heavy gauge stainless steel and anodized aluminum.

Handsome, sturdy Brasco Aluminum Entrances lend added attraction to the complete ensemble. For permanent trouble-free installation and complete owner satisfaction, Brasco assemblies are your wisest choice. New construction details and address of our nearest distributor mailed promptly. Address Dept. P 205.

see our CATALOG in SWEET'S FILE ARCHITECTURAL

☆ ☆ A COMPLETE LINE FOR EVERY DESIGN ★ ★

Brasco SAFETY-SET STORE FRONTS

BRASCO MANUFACTURING CO.
HARVEY · (Chicago Suburb) · ILLINOIS
Specialists in Metal Store Front Construction for more than 40 Years

Atomic Energy Commission uses all 3

ROOF DECKS

SKIDMORE, OWINGS & MERRILL, ARCHITECTS, DESIGNED THE OAK RIDGE SENIOR HIGH SCHOOL GYMNASIUM. THE ROOF DECK, USG POURED-IN-PLACE WEATHERWOOD® PYROFILL®

The *right* roof deck for your defense community building is easy to pick when you "pick from 3." For, in addition to recognized quality, three types offered by U.S.G. provide ideal solutions to all pitched, flat or curved roof problems. All are incombustible, lightweight, strong, quickly installed, easy to maintain. Specify U.S.G. See Sweet's Catalogs for specifications, or call in your U.S.G. representative.

1. USG Poured-in-place WEATHERWOOD or SHEETROCK® PYROFILL Roof Deck

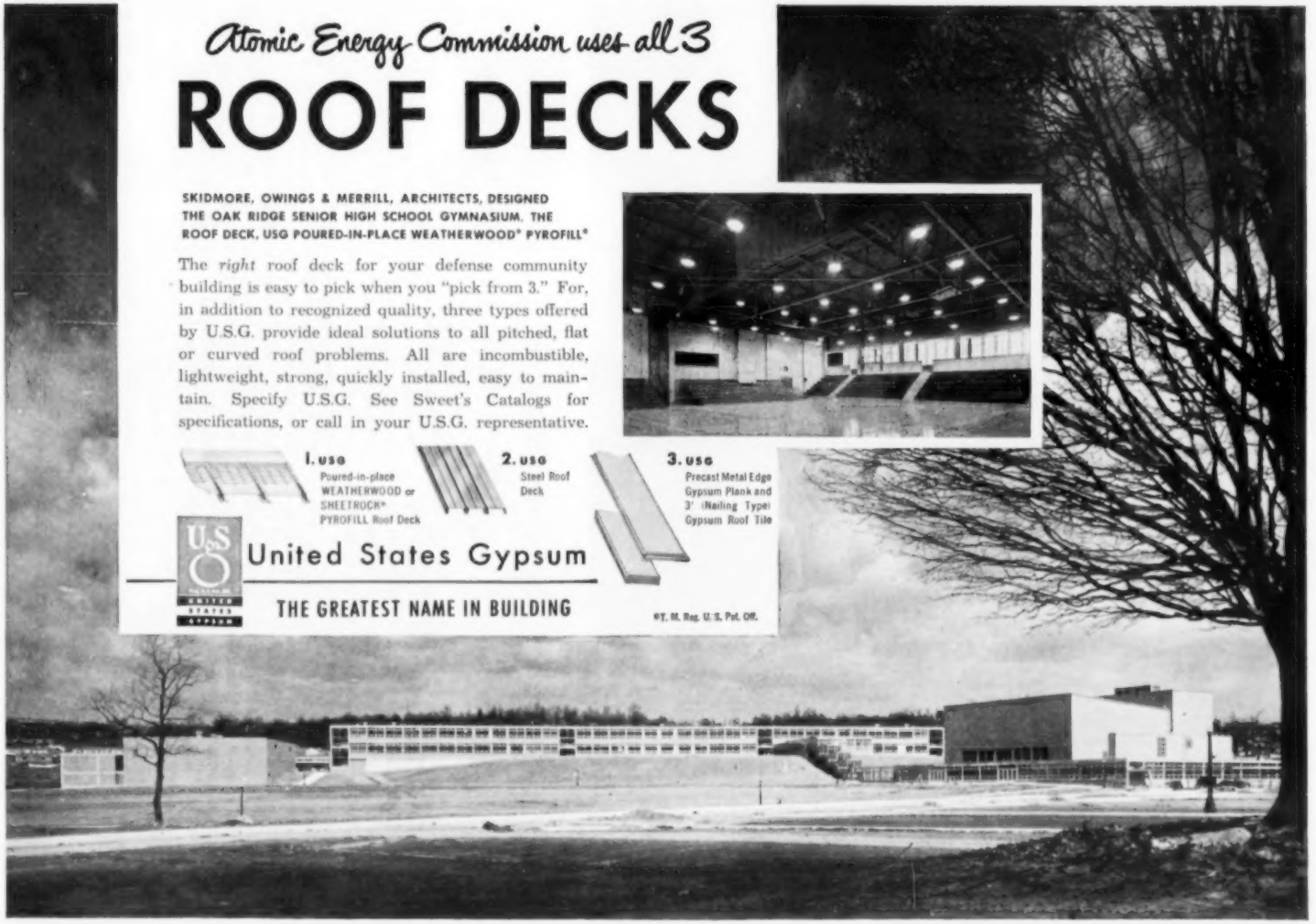
2. USG Steel Roof Deck

3. USG Precast Metal Edge Gypsum Plank and 3" (Nailing Type) Gypsum Roof Tile

United States Gypsum

THE GREATEST NAME IN BUILDING

®T. M. Reg. U. S. Pat. Off.



Man the pumps

and let 'er snow!

Service stations with steel pipe snow melting get the business

It takes a constant flow of cars at the gas pumps to keep a modern service station operating profitably, for traffic and sales go hand-in-hand. Anything that interferes with the station's capacity to fill 'em up and keep 'em moving, naturally reduces the profit.

Sudden and heavy snow falls that slow down normal operations, sometimes for days at a time, not only result in disgruntled customers but, perhaps, in permanent loss of business as well. It need *not* be so! Foresighted operators of service stations with steel pipe snow melting systems do "business as usual" . . . while competitors shovel!

The known economy of steel pipe makes investment in a snow melting system practical for service stations, just as it does for super-markets, decentralized shopping areas and any business dependent upon automobile patronage. And in service, steel pipe has a performance record proved in more than 60 years of conventional hot water and steam heating applications. Add to this the advantages of formability and weldability for coil fabrication and you know why steel pipe is first choice for snow melting systems, too, and why it is the most widely used pipe in the world.

Steel Pipe is First Choice

COMMITTEE ON STEEL PIPE RESEARCH
AMERICAN IRON AND STEEL INSTITUTE
350 Fifth Avenue, New York 1, N.Y.

Grill, Hotel Pierre, New York City. Upholstering with Kalistron, made by U.S. Plywood Corporation, New York, N. Y.

This rich upholstery

SITS BEST with BUDGETS

BRILLIANT COLOR to heighten smart decor! Rugged durability to minimize upkeep costs!

It's upholstery in Kalistron—a clear sheet of VINYLITE Brand Plastic with color fused to the underside, with flock on the back. VINYLITE Plastic lets the color shine through—keeps it fresh—protects it from scuffs, scratches and stains.

And VINYLITE Plastic stays tough and flexible, is easily cleaned, resisting water, grease, alcohol, acid and alkali solutions. Dirt can be wiped off with a damp cloth. Readily worked and shaped, VINYLITE Plastic drapes well, without stretching . . . yet it's always soft and comfortable. Highly resistant to cracking and tearing, it retains its original finish for years. Used either as upholstery or wall covering, it offers sensational new maintenance economies.

With a wide range of colors and embossed designs, upholstery materials based on VINYLITE Plastic are perfect for hotels, restaurants, hospitals, lounges, homes. Wherever beauty must be matched with durability, you'll find the job done best with VINYLITE Brand Plastics. They have a combination of qualities that makes them useful for scores of products in defense and basic industry.

For more information and a list of suppliers, write Dept. ML-58.

Vinylite BRAND **PLASTICS**

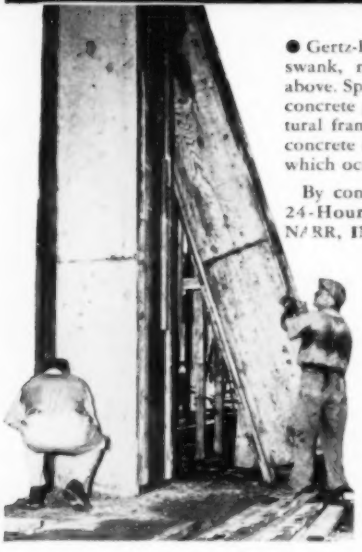
TRADE MARK

BAKELITE COMPANY, *A Division of Union Carbide and Carbon Corporation* UCC 30 East 42nd Street, New York 17, N. Y.

Earlier Occupancy at Less Cost!

TOP SPEED WITH 50% LESS FORMS

—thanks to Concreting Know-how and dependable 'Incor' High Early Strength



● Gertz-Flushing, north-shore Long Island's swank, new department store, is shown above. Speed and economy both considered, concrete got the owner's nod for the structural frame of new addition as well as for concrete alterations to the old bus terminal which occupied part of the site.

By concreting throughout with 'INCOR' 24-Hour Cement, FOSS, HALLORAN & NARR, INC., cut form requirements to the bone . . . top speed with 50% less forms! Stripped in 24 hours, where necessary, dependable 'Incor'* high early strength kept the complicated job on schedule all the way.

Concrete work was completed a week ahead of schedule, making it possible to finish the job and open the store 25 shopping days before Christmas . . . thanks to concreting know-how and typical performance of America's FIRST high early strength portland cement.

*Reg. U.S. Pat. Off.

B. GERTZ, INC., Flushing, N. Y.
Designed by:
ABBOTT, MERKT & CO., New York
General Contractor:
VERMILYA-BROWN CO., INC., New York
Concrete Contractor:
FOSS, HALLORAN & NARR, INC., Long Island City
Ready-Mix 'Incor' Concrete:
TRANSIT-MIX CONCRETE CORP., New York

LONE STAR CEMENTS COVER THE ENTIRE CONSTRUCTION FIELD

LONE STAR CEMENT CORPORATION

Offices: ABILENE, TEX. • ALBANY, N. Y. • BETHLEHEM, PA. • BIRMINGHAM
BOSTON • CHICAGO • DALLAS • HOUSTON • INDIANAPOLIS
KANSAS CITY, MO. • NEW ORLEANS • NEW YORK • NORFOLK
PHILADELPHIA • RICHMOND • ST. LOUIS • WASHINGTON, D. C.

LONE STAR CEMENT, WITH ITS SUBSIDIARIES, IS ONE OF THE WORLD'S LARGEST CEMENT PRODUCERS: 17 MODERN MILLS. 125,600,000 SACKS ANNUAL CAPACITY

clients for housing: the low-income tenant

does he want supertenements ?

by Catherine Bauer

In the Curtis Publishing Company 1945 *Urban Housing Survey*, only 4.8% of the respondents said that they "like living in an apartment house." By 1952 some of the big builders like Metropolitan (which has two fancy new apartment developments half empty on the West Coast despite the continuing severe shortage) are probably wondering if the proportion among upper-income families is even this high.

In an FPHA survey of a thousand tenants in 1945, only 1% said they would like an apartment in a three-or-more story building.

Even among New York public housing tenants, a Women's City Club survey of 1948 found that only 63% of the families in apartments were fairly well satisfied, while 91% of those in row houses evinced quite complete satisfaction. And managers report that it is difficult to persuade occupants of dilapidated war-time Quonset huts to move into new, conveniently located elevator buildings.

"Councilwoman Fletcher asked the Director: 'How satisfactory do you think a six-story unit would be for a large family?'

"He admitted that it would not be satisfactory and also that the greatest demand for low-rent public housing in Oakland is among families with several children.

" 'In other words, this project is being built for those with children, yet it would not be satisfactory to them,' she commented.

". . . (It was) contended that three out of the eight acres in the project site will be devoted to recreation. Councilwoman Fletcher replied: 'Recreation areas aren't worth anything to a mother unless she can keep track of her children, and she can't from several stories up'."
Oakland Tribune
Jan. 16, 1952

Preceded by a decade of study and political debate, and followed by almost three years of tedious preparation to make use of its powerful tools, the Housing Act of 1949 is now about to produce some tangible low-rent public housing. The mountain moves at last, and what does it bring forth? Not the proverbial mouse but a nation-wide crop of behemoths, vast structures that bear about as much resemblance to the ordinary American idea of a home as Lower Manhattan does to Concord. And the question is: *do* they represent progress, however strange the form, or a foolish way of skyscrapomania?

The facts. As of the turn of the year at least 53,000 dwellings in elevator structures, planned by local housing authorities in 23 different cities, had received general approval from the Public Housing Administration. This represents more than two-thirds of the current low-rent housing program in these cities (60% even if New York is excluded), and 25-30% of the entire PHA-aided postwar program that has reached a definitive design stage. Before the war there was only New York.

The reasons. What kind of dragon's teeth has produced this sudden phenomenon? The reasons are not hard to find, and are too real to be lightly disposed of. Most cities want to clear slums with low-rent housing projects, because clearance operations are dramatic, because public housing is more acceptable to conservative interests if it involves central clearance, and because there is sometimes bitter opposition to locating projects on outlying vacant sites. Race prejudice often adds to the difficulty of using cheap vacant land, and there is the added fact that some city housing authorities have little or no vacant area suitable for residential use within the narrow limits of their jurisdiction. Finally, only a few cities are using the redevelopment subsidies available under Title I, to cut down land cost for public housing projects.

Yet slum property is abnormally expensive today. So to keep site costs down, higher densities are accepted. Moreover, the exigencies of the housing shortage and the difficulty of relocating displaced families are such that once a site is available, there is ever pressure to crowd it with as many dwellings as possible.

The need for analysis. It's the over-all impact of these statistics that gives them their urgent national significance. If it were still only New York, one would say: What's the use of arguing? Moses is boss, more congestion is his consistent goal, and if his fellow-denizens don't like their Promised Land, they have only themselves to blame. Or if it were just Chicago, one would take heed to avoid elsewhere their dangerous impasse in race relations and admit that at least the Chicago Authority is making some useful experiments in the design of high-rise buildings. St. Louis, considered by itself, is a kind of curiosity, the most unlikely city to have suddenly gone on a Le Corbusier jag. Los Angeles is against the ropes *pro tem* on the whole public housing question. One would hardly choose this moment to attack them on design questions. And Philadelphia is approaching the problem with such thoughtful planning and responsible civic leadership that one can only wish her all success. But if this is a wave of the future, as the national figures suggest, then it is high time to ponder what we are doing and why.

I am grateful to my old friend, the eminent architectural editor, who recently stated: "It is silly to damn high-rise buildings, private or public, on the basis of

preference votes by uneducated people whose only high-rise experience—if any—has been in idiotic 608's or the products of PHA Administrator Egan's bunglers."* It gives me a good starter for my own side of the argument: "Okay, but it is just as silly to damn low buildings, private or public, on the basis of preference votes by architects whose social, economic and civic education has been neglected, and who happen to have an emotional predilection for showy structures, complicated gadgetry, and slick technocratic 'solutions'."

the case against high-rise public housing

From the viewpoint of broad civic interest, both long-term and short-term, the case is very strong indeed. The push toward decentralization is more inexorable than ever, for a number of basic social, economic, and technological reasons. Our new kit of tools should be used, by and large, to *open up* crowded districts since this seems the only logical way to "save" our strangled, obsolete city-centers in their losing fight with the suburbs. But in almost every case, these high-rise projects will contribute to further congestion.

Defense policy merely underscores the need to decongest central areas. While no drastic dispersal program is contemplated, the general trend toward industrial decentralization is being speeded up by military considerations, and both civilian defense and productive efficiency under emergency conditions raise new questions about central congestion. But even if the only issue were the limited supply of steel for civilian purposes, it would seem advisable for local housing authorities and PHA, merely as a precaution against some sudden Federal ukase, to ponder more seriously the alternatives to high-rise construction. It is on social grounds, however, that the argument is most compelling.

How families live. The significance of attitude studies is limited: people only know what they have experienced, by and large, and often do not properly relate cause and effect. But when every survey ever made in the United States to my knowledge, from the crudest market study to the most refined piece of intensive field research, seems to indicate an overwhelming preference for ground-level living, this fact can hardly be tossed aside with contempt. And when the present and potential tenants of public housing projects show a preference still stronger, perhaps even the most romantic believers in technological determination should at least ask: Why? Are their reasons sound? Can their objections really be overcome by better design of high buildings?

What's the difference? In physical terms, the main points of difference between a row house (the typical prewar dwelling form in public housing) and a high-rise apartment, can be stated quite simply:

Ground level entry	vs	Entry via public corridor and elevator
Adjacent land readily available for private yard	vs	Public open space removed from dwelling, with the possibility of a balcony or deck if not too expensive
Party walls at sides	vs	Party walls, plus people above and below
Moderate population density	vs	Much higher density (ordinarily) than is usual in America, even in central slums
Relative independence and flexibility in living arrangements for the individual family	vs	Considerable restriction in family living arrangements, with relative dependence on collective equipment and services
Moderate accessibility for collective services, community facilities	vs	High accessibility for collective services, community facilities

How these differences affect people's lives is evidenced by a mass of claims and data.

What all the small points of difference add up to, in broad social terms, can perhaps be stated as follows: *the residential skyscraper tends to require a highly*

"That the vast majority of families want enclosed, individual back yards is indicated by reports from both managers and tenants. Families want enclosed yards for the protection of children, for laundry and some would like a garden."

"The Livability Problems of 1,000 Families," Federal Public Housing Authority 1945.

"It is maintained that high rise apartments do not offer the amenities for low-income families with children that row houses do. There is no opportunity for the head of the family to engage in gardening. There are fewer opportunities for social contacts between neighbors. Mothers cannot keep close supervision of their children while doing their household work. The use and storage of children's toys such as carts, velocipedes, and bicycles constitute a problem, and the care of pets becomes a nuisance. It is realized, of course, that apartment living has some advantages as well as disadvantages, but it is believed that, on the whole, it does not conform with the aspiration and desires of the American people."

—from a PHA Field Economist's report disapproving additional elevator projects in Mid-Western city on the ground of uncertain market among eligible families.

"What about flats? I feel myself that existing technology cannot provide tall blocks of flats which are suitable for families with children unless at excessive cost."

Charles Madge, leading British social scientist, summing up the evidence on "Private and Public Spaces," in *Human Relations* Vol. III, # 2, 1950.

"Elevators create some special management problems . . . people block the doors when they run out for an errand and everybody complains . . . children urinate in them . . . after a brief power stoppage the paraplegics and the old people got so hysterical that most of them had to be moved down to the first floor . . . in general, the upper floors are much less popular than the lower floors despite the view . . .

* *Douglas Haskell, "The Case for High Apartments" The Magazine of Building: Architectural Forum, Jan. 1952*

organized, impersonal, and relatively inflexible mode of living for which most American families have little desire and less gift. Or it might be put the other way around. For better or worse, our habits and ideals tend toward a rather casual and independent cultural pattern whose potential virtues are likely to become weaknesses in a too-rigid environment.

These qualities of ours are not necessarily all "good" per se, and it is possible that they may be gradually modified in some respects. But this is the way most of us *are*, by and large. What's more, it's the way we want to be. And it is unlikely that putting us into elevator buildings will suddenly transform us into models of Dutch neatness, German discipline, Scandinavian co-operative genius, and Latin urbanity.

Twenty years ago this was much less clear. At that time there was a widespread feeling among progressive housers and planners that social, economic, and technological forces would all push us inevitably in a single direction: toward a more collective mode of life. Maximum emphasis was put on "community facilities," on transferring household functions to more efficient group services. Hence the skyscraper Utopias of Le Corbusier and Gropius.

But what has been learned in the interim, from social science, from wide experience with large-scale housing, and even from technology, is by no means consistent with that brave but over-simplified hypothesis. Today the child psychologist (while still respecting the nursery school) puts *primary* emphasis on the emotional ties between the child and his immediate family. Mothers are no longer supposed to abdicate in favor of supervised playgrounds, and fathers are summoned home early to play with their offspring. It is now believed that the personal security which makes society possible—particularly democratic society—is a home-developed quality at base. Or look at food: science, instead of pushing us out into efficient restaurants, has given us prepared and frozen foods to consume at our ease in privacy. Even recreation, with radio, television, barbecue-pits and what-not, is more rather than less home-based.

It's not that the problem of creating and strengthening the "community" has been abandoned: it's still there and it still has to be solved. But the more we look into it, the more we seem to find that to achieve a real community in our kind of world, people must first have privacy and some degree of personal freedom and responsibility. People just aren't more friendly and co-operative, the closer they are herded together. All kinds of studies show that beyond a certain point, they tend to become defensive, withdrawn, and asocial. We need parks, playgrounds, more and better community centers and services of all kinds, but they are not effective *substitutes* for private space and relative independence in the home environment, as they must be in most apartment developments.

The elevator building is particularly unsuitable for public housing. If there is any general validity in all this, it is doubly true for public housing policy. People with servants, cars, and summer homes can overcome some of the disadvantages of skyscraper living while fully utilizing its expensive advantages. Old people, single people, some adult households in all income groups, might often find it comfortable and convenient. Families with special zeal and capacity for co-operative living, and the means to support good community equipment and services, might make a real success out of co-op apartments. There is ample room for occasional high-rise structures, to meet varied needs and provide variety in the urban scene.

But the people for whom the pattern is least suitable are those on whom we are now foisting it wholesale: families with very low incomes, from slums, mostly with children, and whose inevitably minimum-standard dwellings will be under public landlordship.

Public housing on vacant sites: the obstacles must be overcome. Due to the housing shortage, boom prices for slum property, and the limitations on new construction,

window guards had to be made available because people were afraid their children would fall out. . . ."
Notes from interviews with New York City Housing Authority managers.

One of the major conclusions of a nation-wide survey of wartime public housing was "Failure to satisfy the fundamental desire of people to exert an individual sense of responsibility for their property. This is demonstrated strongly through the extreme dissatisfaction with community clothesline space and community garbage collection stations, as well as through tenants' preference for individual yard space and fences outlining the property belonging to them."
"Space Requirements of War Housing: A Survey of Family Behavior, Attitudes and Possessions," Robert L. Davison Associates for the National Housing Agency, 1944 (typescript).

"On the housing estates common front walks, and to a greater degree common porches, are a source of annoyance and much offend people's sense of privacy."
"People's Homes," *Mass Observation*, London 1943.

"Nowhere is it quite so difficult to create a community as in a block of flats. With neighbors above, below, and on both sides, the natural tendency is to erect barriers against friendship . . . Dwellers in large blocks of flats do not seem to belong to the place."
L. E. White, *"Community or Chaos: Housing Estates and Their Social Problems,"* London, National Council of Social Service, 1950.

"Maxim Duplex," an architect, summed up 20 years of housing experience in a series of articles in the *Journal of Housing* (June, July, September, 1950; August, December, 1951). He deplores "living environments that are too paternalistic from a social point of view and too highly staffed from the standpoint of economical rental management."

there was never a more difficult or illogical time in history to engage in wholesale clearance operations. Most public housing should go on vacant land under such conditions. It's true that there are serious obstacles in many communities, but they all have to be overcome sooner or later anyway: why not now?

If only slum clearance here and now is "popular," then it is high time we broadened the public understanding of how central areas can best be rehabilitated in the long run.

If suburbs object to being swamped by vast, monotonously standardized "projects," this only strengthens the argument for much smaller, more varied public housing developments, with bona fide domestic character.

As far as the race question is concerned, less than nothing is solved by merely increasing the densities in areas where non-whites are already dangerously overcrowded. Some means *must* be found for opening up new areas to such families; in a great many cities this is the most urgent issue on the entire civic agenda. And this is the time to do it, with the growing national concern about race relations, and the increasing push against segregation in most Northern communities.

The toughest problem is faced by cities with no suitable vacant land within the jurisdiction of their housing authorities. But even here the problem must be solved sooner or later, whether by county or metropolitan authorities, or by other steps toward unified metropolitan planning and development.

Don't jump to elevator buildings too quickly, even on an expensive site. In some cities the use of costly slum sites for a substantial part of the public housing program may be unavoidable. But this doesn't mean that high densities are likewise inevitable, or that everyone must automatically live in an elevator building.

In the first place, Title I of the 1949 Housing Act should be used much more frequently than at present to reduce the cost of land for Title III public housing projects. Its *purpose* was to relieve congestion.

In the second place, there is all the difference in the world between a big project that is *all* high structures, and one that includes a modest proportion of high units with a number of low ones. Philadelphia plans provide some good examples of the latter, in conformity with their effort to create balanced neighborhoods instead of socially and physically standardized barracks.

Finally, if half as much loving ingenuity had been devoted to the design of the row house in this country as has been bestowed on fancy skyscrapers, we wouldn't automatically jump to apartments as soon as a density of 25, 30, or even 40 families per net acre is called for. Half a glance at the Dutch and Danish architectural magazines, along with the *British Housing Manual*, would suggest a range of possibility in the row house that neither PHA nor local architects have even begun to explore. Some interesting ideas and experiments have been developed for low-density row house projects by DeMars, Kennedy, Stubbins, Kahn and a few others, but little systematic fresh analysis of this dwelling type has been made in America since the still-significant early studies of Henry Wright and Clarence Stein.

In Baltimore and Philadelphia, however, traditional row houses run up to 40 per acre. And even with bad design and a wasteful sea of pavement, they usually manage to provide small private yards. Surely with imaginative design and layout, a fairly good row house could be constructed at the same density. The two-story house combined with a flat also needs more thought and experiment, as well as the three-story walk-up.

Such types might lend themselves more effectively to real "urbanity" in civic design than our belated wave of Le Corbusierism. In their search for more positive urban form, architects might derive sounder and more enduring esthetic inspiration from the 18th century squares than from the skyscrapomania of the 1920's.

"It is because I have seen families who live in row-house developments enjoy a greater fulfillment of their personality needs without so much dependence on community resources that I find myself so ardent an advocate of this kind of dwelling."

Elizabeth Wood, Executive Secretary, Chicago Housing Authority in *Magazine of Building: Architectural Forum*, January, 1952.

"As population density increases, social and psychological stresses increase, owing to the increased frequency of unavoidable social stimulation, and the progressive limitation of the individual's ability to control his own environment, both physical and social. . . ."

"Privately controlled outdoor space vastly increases the living area controlled by a family, and also permits an increase in the social responsibility and status of all members of the family, particularly the father, whose position is relatively weak in low-income groups. . . ."

"Overextended, stereotyped, or paternalistic management destroys the possibility of developing strong community and family organization."

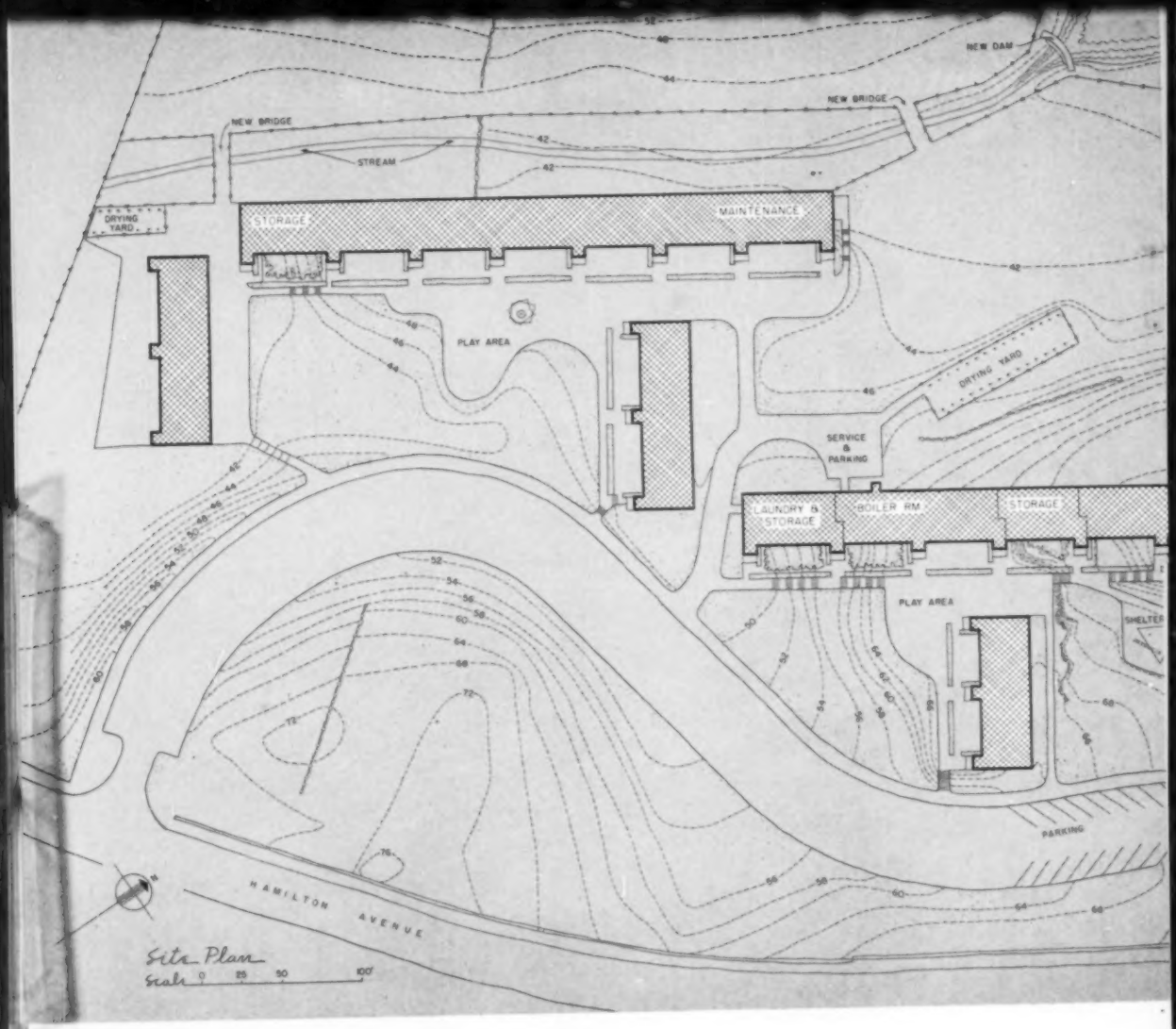
From a report to the housing authority of a large Eastern city by a prominent anthropologist, not yet published, but read by the author in a confidential draft form. This study compared life in a row-house project with that in a high-rise development and found that the weaknesses in the former were largely remediable, while they were "built-in" to the apartment complex as direct components of density and dwelling type.

". . . for families with children, the low building, with garden and play space at hand, with the child under the eye of the mother, is essential, unless the worst aspects of slum life, the disorganization of the family, are to be perpetuated by the very Authority that is pretending to improve housing conditions."

Lewis Mumford

clients for housing: the public authority

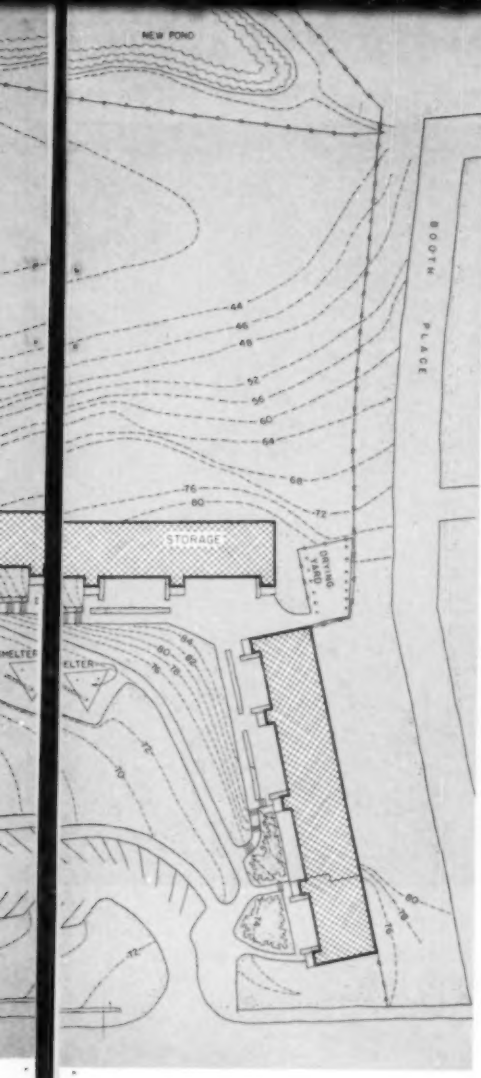
location	Greenwich, Connecticut
sponsoring agency	Housing Authority of the Town of Greenwich
architects	Holden, McLaughlin & Associates
associate architect	Joseph G. Weir
site engineers	S. E. Minor & Co., Inc.
mechanical engineer	Winfield S. Bondy
general contractor	Frouge Construction Co., Inc.

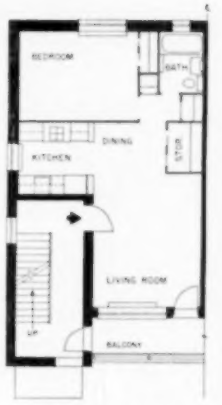


While the public authority, as a client for housing, has nowhere near the dollar volume to offer the profession that private investment has, it extends its funds in sizable lump sums and, for the architect who views architecture primarily as a social art, it has much to offer in addition. Furthermore, despite infinite rules and regulations, under the egis of a progressive local authority work of a high order is possible, as witness the project presented here.

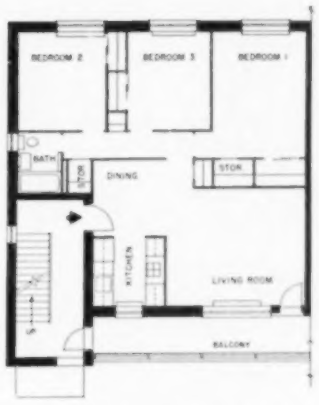
The program called for 144 dwelling units for the Moderate Rental Connecticut State Housing Program. A troublesome initial problem was to find a site that would offend no one's sensibilities, in the wealth-conscious Town of Greenwich.

Eventually, the land on which the project is built was found between the town incinerator and the New Haven railroad tracks. In spite of this relatively dreary location, the architects comment: "It is really a very good site, since we had more land than is usually available." Geologically, it is true, the site *was* a tough one, with the upper end of solid granite, and the lower end a swamp. To cope with this, some blasting was required on the upper end; but this

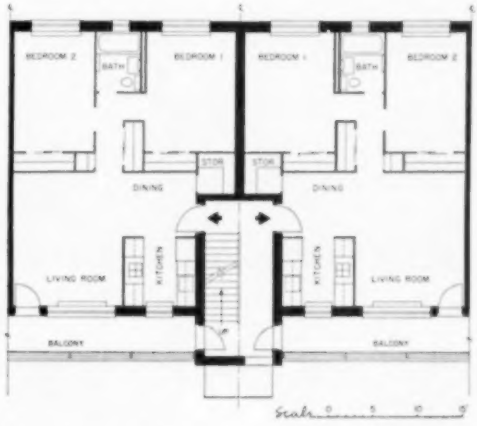




Typical one-bedroom end unit.



Typical three-bedroom end unit.



Typical intermediate two-bedroom units.

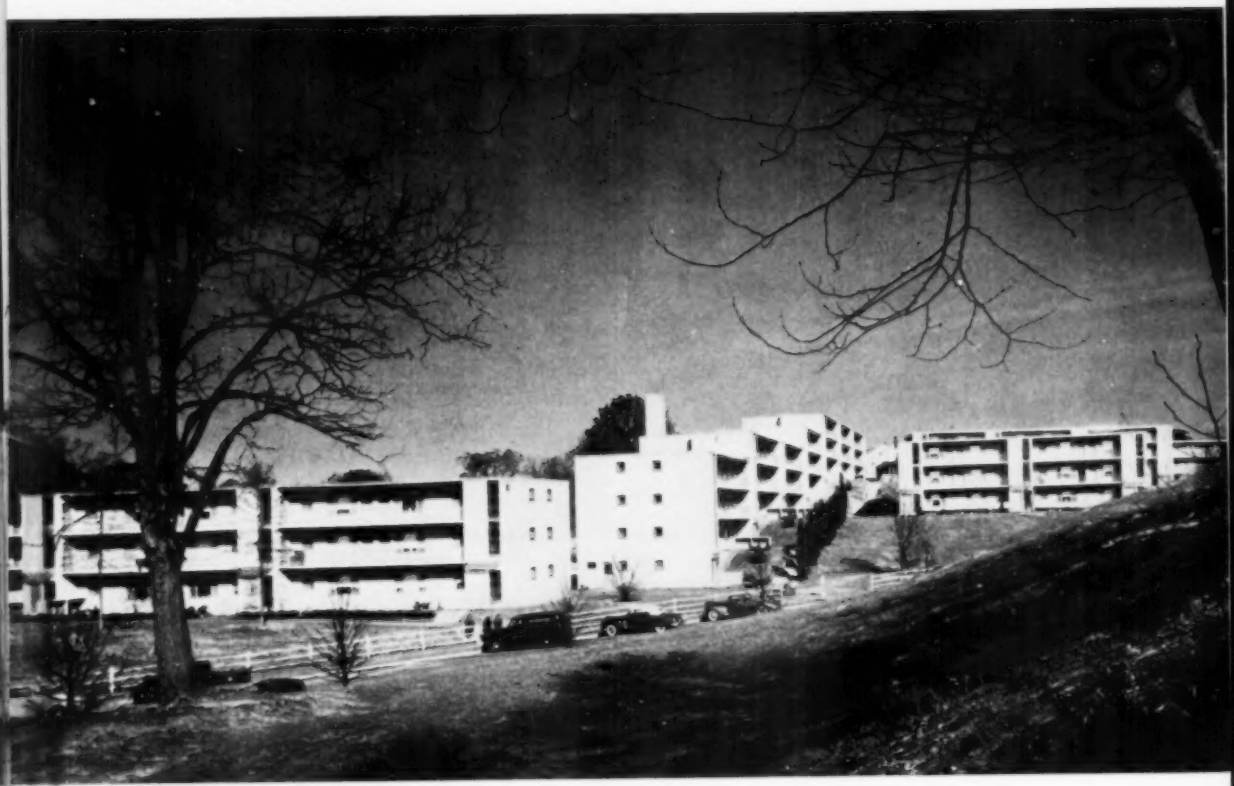
was held to a minimum, since the buildings were kept high and positioned along the contours. At the lower end (the southernmost block), piling was required, and this block was raised on stilts to obtain sewage drainage, keep the apartments above dampness, and provide for gravity returns in the heating system. As for the site plan in general, "we did the landscape work ourselves . . . The site is quite tricky, and we felt that the U-shape road with diagonal parking would cut into play areas least. We recommend this sort of U-system highly over roads with separate parking areas."

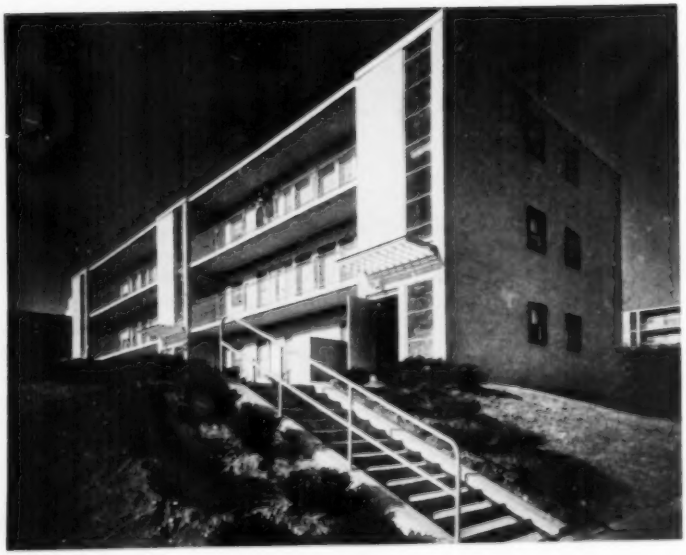
Outside balconies, the elimination of interior corridors, and a floor-through plan for every apartment are the most notable plan features. Standard plan units (*above*) are the pair of two-bedroom units on either side of a stair tower, with end apartments of either one- or three-bedroom units. The balconies, the architects emphasize, were not employed for an architectural effect but, rather, to comply with the Connecticut law requiring two means of egress.

Structurally, the units consist of concrete foundations, walls of face brick, with block backup, 2″ concrete-slab floors over steel-mesh lath on bar joists (for fire resistance and low maintenance, without involving reinforced concrete construction), and inside walls finished in plaster. Floor surfaces are asphalt tile, and ceilings are plaster on wire lath; 4-ply built-up roofing. Insulation is aluminum-foil reflective type, and sash are aluminum, with double-thick "B" glazing. The heating system is a forced-circulation hot-water job, with a central boiler room having two oil-fired boilers.

Detailed cost analysis of the project appears on page 70.

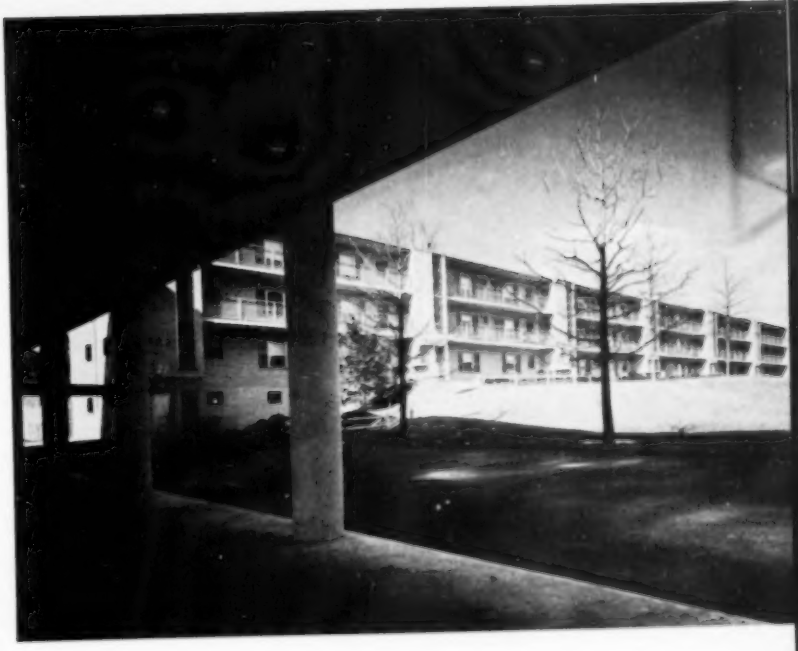
Greenwich, Connecticut





A general view from the south (top) clearly indicates the architects' respect for the contour lines of the site. Short blocks at right angles to the long buildings (left) are oriented with balconies facing south. Photos: Lionel Freedman

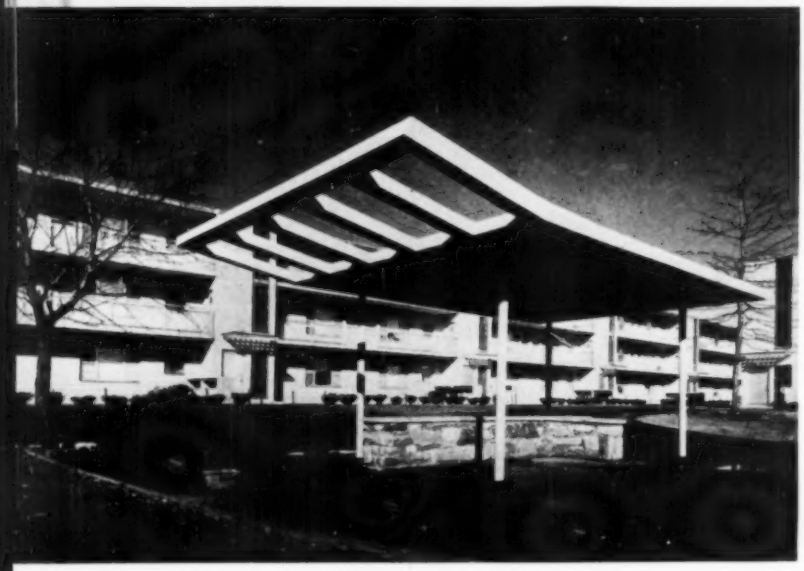
A close-up of a typical building (right, top) emphasizes the pattern of gray-buff brick, aluminum sash, and pebble stainless-steel entrance doors, all of which (as with all materials used) were selected to "take the beating" that a project of this type receives. Corrugated wire-glass is used in the aluminum sash of the stair towers; the balcony railing is of expanded metal panels attached by welding to wrought-iron pipe frame. The architects comment that they set the southern building (background, center photo) up on stilts for practical reasons, "not because we had seen some nice stilts in the last issue of your good magazine." Seen from the stilt-loggia (bottom photo), is the long, east-facing block in the southern half of the project.



Greenwich, Connecticut

cost analysis

Land, sewer-connection assessments, and building permits	$ 36,330.12
Construction cost—buildings	1,209,150.79
Site-improvement cost, including rock excavation, piling, pond, park, and planting	261,160.75
Miscellaneous equipment, including ranges, refrigerators, garbage cans, laundry equipment, jeep, etc.	19,761.34
Fees, surveys, and administrative overhead	97,827.68
Interest, insurance, and state service charge	27,149.66
Total development cost—including everything	1,651,380.34
Allotment	$1,664,000.00



The total development cost, including everything, came to $11,467.62 per dwelling unit. Total building construction and site improvement cost, per dwelling unit, was $10,210.49. Of the 144 apartments, there are 12 with 3½ rooms; 108 with 4½ rooms, and 24 with 5½ rooms—making a total of 660 rooms (construction cost per room: $1,832.04). The tentative rent schedule, including heat, gas, hot and cold water, and garbage collection (electricity is extra) is: $47 a month for the 3½-room units; $60 for the 4½'s, and $67 for the 5½'s—or an average rent per room per month of $13.11. There was no direct subsidy on this job. The Greenwich Authority is given the advantage of low State interest rates, and 10 percent of shelter rent is paid to Greenwich Township, in lieu of taxes.

The project is a notable example of the three-story walkup as a housing solution. While it does not offer the privacy of the row house, for which Catherine Bauer argues so eloquently (pages 61-64), it does offer considerably more living amenity than a skyscraper.

It is instructive to contrast the design excellence of this State project with the dreary product that has become all-too-familiar under auspices of PHA, with its rigid standards, maxima and minima. Little wonder that the PHA Architectural Advisory Board recently resigned in a body in protest. During construction of the Greenwich project, the chairman of the housing authority was himself a well-known architect—Ralph Pomerance of Pomerance & Breines, New York.

clients for housing: the co-operative group

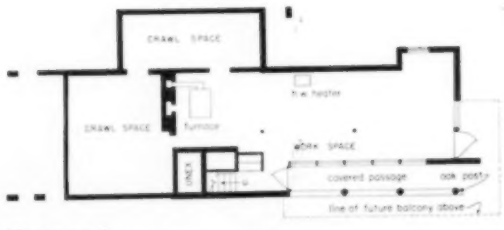
location	Ardsley, New York
architects and designers	Charles Bliss, Engineer
	Lionel Freedman, Photographer-Designer
	Fred M. Ginsbern, Architect
	Martin Glaberson, Industrial Designer
	Roy S. Johnson, Architect
	Irving Rubin, Designer
	Stanley Torkelson, Architect

The co-operative group, determined to build a small community for itself, is in many ways the best client the architect interested in housing can have. The social aim is high; the interest in good design is usually prominent; and economies are usually sought through a measure of standardization and co-operative purchasing, rather than shoddy construction. At the same time, the co-operative group can be a tough client. Many well-intentioned enterprises have failed because of over-idealized approaches, insufficient capitalization, or for some other reason. And it is well for the architect to realize these dangers from the beginning.

In the case of the project studied here, the "architect" was a board composed of the design-trained members of the co-operative group, and the client peculiarities were, therefore, largely controllable.

Starting in the spring of 1948 with a group of families, who happened to be looking for suitable property outside New York City on which to build homes and who decided that they would make reasonably congenial neighbors, this co-operative development—Twenty-One Acres—is made up of 13 houses, each on a lot of approximately one and a half acres, with a remain-

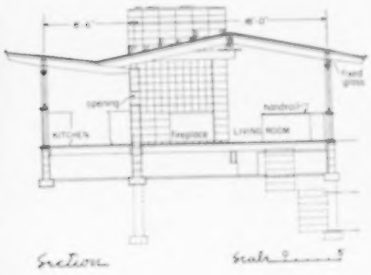
Ardsley, New York



Basement

Ground Floor

The home of Lionel Freedman, architectural photographer who took all of the pictures of the project, was designed for parents and a young daughter. In addition to immediate family needs, expansion space was wanted for a dark room, a work room, and possible future living quarters for an older relative. The family rooms are on the upper level; the entrance door at an intermediate level; and space on the lower floor is partially enclosed, now, with rough plumbing for future bathroom and darkrooms. Temporarily, this space is used as a storeroom for building materials, while the house is being finished as time and the budget permit. On this page are construction photos of typical houses, showing the 4-foot module pattern, the use of select lumber, which also serves as finish, and (immediately below) *a typical house section—18' main span; 8'-6" "butterfly."*



ing lot set aside to be developed in the future for joint use.

After informal intial discussions, it was decided to launch the co-operative venture and purchase the property. A corporation was formed—Twenty-One Acres, Inc.—with all required officers and committees. Roy S. Johnson, architect, was elected president. In intervening years there have been several changes in the membership, and the group finally found itself composed of three psychiatrists, one book distributor, a dental technician, an art director, one engineer, one industrial designer, an architectural photographer, a designer, and three registered architects. The latter seven constituted a Design Committee, which prepared plans for the entire project.

Guided by the engineer's recommendations, the members surveyed the entire property and laid out the site plan, road, utilities, and subdivisions. The engineer also prepared an analysis of the utilities, so that each member was able to estimate installation costs almost exactly.

As a spokesman tells us, "this project would have been impossible under conditions other than those we experienced." Among the particular factors involved were self-imposed restrictions on the structural system used, the planning, selection of materials, financing, and operation of the project as a whole. "The entire project cost approximately a quarter of a million dollars," Fred Ginsbern, current presi-

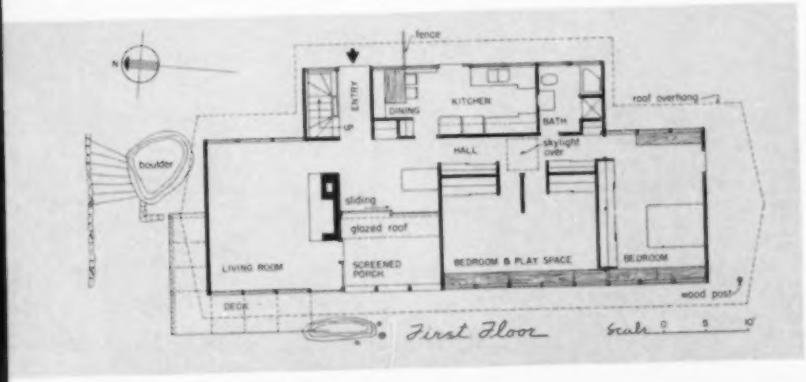
Ardsley, New York

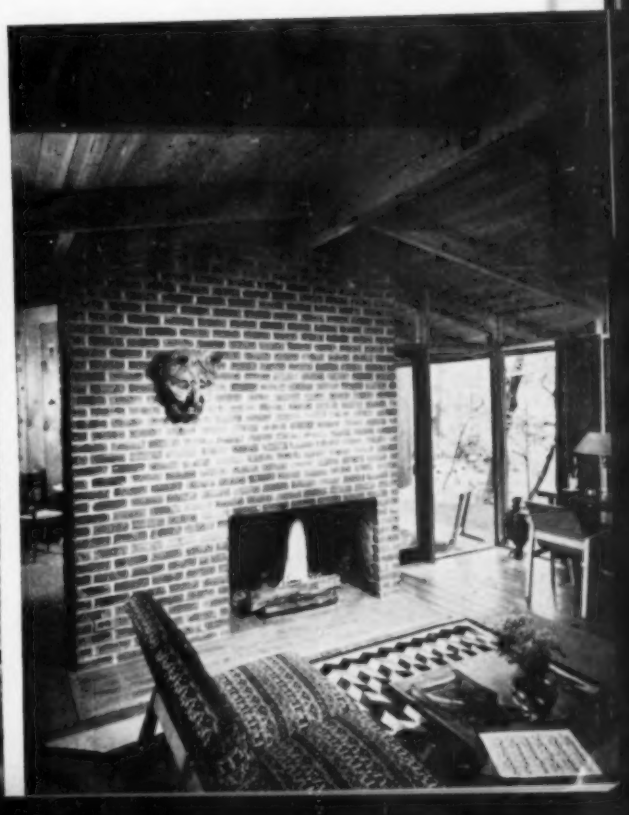
Happily sited on a wooded slope, this is the home of Roy S. Johnson (architect), his wife, and two small children. The children's room is so planned that it can be readily subdivided when the youngsters are older. Planned is a future carport and storage room, in a separate structure. View from the dining space (acrosspage, left) out to the porch and beyond. At right of the living-room fireplace (acrosspage, right) is another door to the porch. Note the waxed-plank flooring and exposed structural frame.

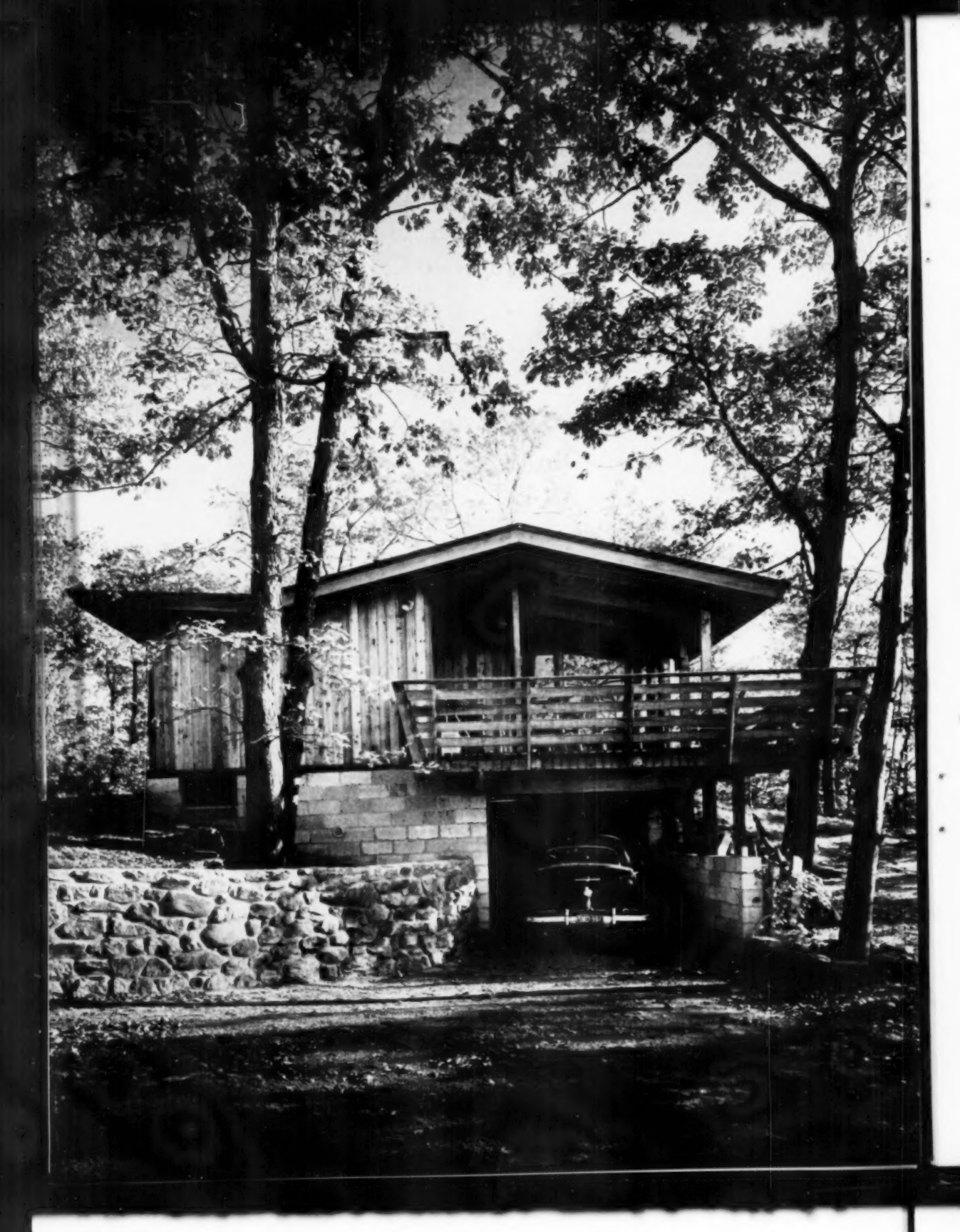
dent of the corporation, reports, "including the development of the land. With a low capital investment on the part of each of the members of the corporation, plus the bank loans, it was possible to finance it."

The basic structural system that applies (with minor variations) to all of the houses consists of a modular frame of select structural lumber (since frame and finish are one and the same in most areas): 3″ x 6″ fir posts placed 4′ on centers; floor frame of 3″ x 8″ beams; 3″ x 8″ rafters (in some cases, 3″ x 10″) leading up to a double 3″ x 12″ ridge girder. Flooring is of 2″ x 6″ t & g planking, as is also the roof boarding. Built-up roofing and 1″ glass-fiber insulation-board complete the roof construction. Standard wall panels, between the posts, consist of doors; windows; self-supporting, wood-chip-cement insulating panels; or red cedar boarding.

Forced hot air was selected for heating as being the most economical—a type of system that has an integral water-heating element that saved the cost of both a separate water heater and its installation. Oil fuel was selected rather than gas, because of its lower operating cost in that area, although initial installation cost for the latter would have been cheaper. Distribu-



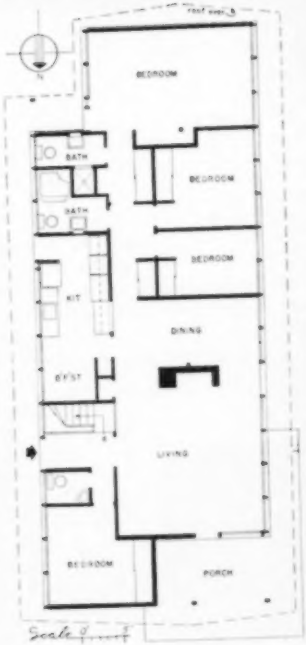




tion of the hot air through metal ducts would, the group felt, constitute an important cost factor in this system. Wherever practicable, the solution was a scheme to use the crawl space under the house (which was floored with 2" of concrete) as a plenum chamber, into which hot air is blown, creating a warmed floor and permitting a direct flow of air at desired locations in each room by means of grilled openings in the floor. Exterior walls of the crawl space were insulated with 1½" rigid glass-fiber panels. This device worked fine in houses which had excavated basements centrally located and or crawl space not exceeding 3'-6" in height. In houses with large crawl spaces, conventional duct systems were employed.

The corporation's Finance Committee kept the records, dividing cost of construction for each house. "We estimate that the houses cost less to build by sub-contracting —as we did—than would have been the case by general contracting, because of the nature of our financing. For one thing, when money ran short, construction could stop altogether; and, a number of the houses were stopped at various stages of construction and later completed by the owners with their own labor."

The home of Dr. Ullman, his wife, their two children, and a father-in-law. This house perches on a rocky hillside sloping away to the west and well wooded with dogwood, oak, and beech trees. Because of the rock condition, only a partial basement level at the north end of the house, (small cellar, boiler room, and carport) was economically feasible. Quarters for the father-in-law are at the opposite end of the main floor from the family bedrooms; to economize on the rather extensive plumbing installation, all piping is kept within the 8'-6" "butterfly" side of the house (see typical section, page 73), while the 18' span is used for living and sleeping areas.



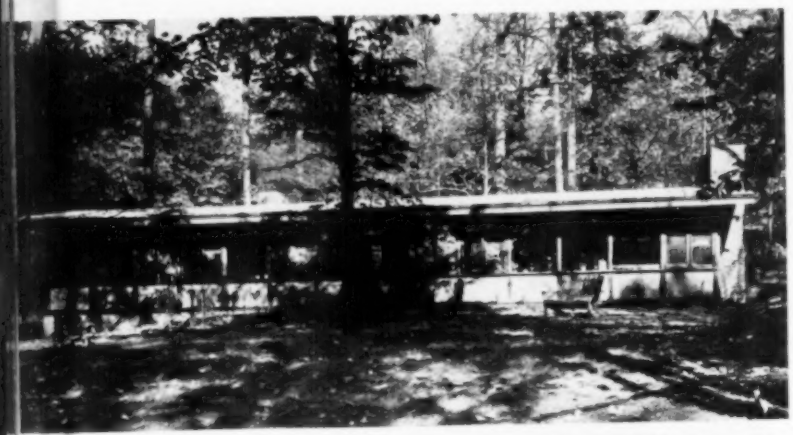
From the outset, the group had happy relations with local authorities, the Village Board waiving restrictions on the use of low-pitched roofs (for example)—"very important, as the cubical content of the building, as well as the general design, would have been seriously affected."

In the selection of materials and use of the plank-and-beam system of construction, economy was always the watchword. Plank flooring was considered a suitable finish, that would allow later installation of finish flooring, or covering with carpet or tile. The wood-chip-cement panel chosen for exterior walls was selected for its thermal characteristic, ease of installation, and color. Dry construction maintains throughout the houses, and copper gutters were avoided by detailing a deep gravel-stop along the eaves.

The project was supervised almost daily by members of the Design Committee. The group hired a superintendent of construction and carpenters, purchased lumber, and subcontracted for masonry, plumbing, heating, electrical work, and roofing. Such materials as steel, hardware, sash, doors, etc., were also purchased in quantity through the corporation. One opportunity for reducing costs that they overlooked was the savings that would have resulted "had all the house plans been completed before beginning construction. Since they were not, we had to sub-contract the work based on unit prices."

For any group that might contemplate embarking on any similar type of venture, the Twenty-One Acres group makes several suggestions. Above all, they say—an architect should play an important, if not *the*, leading role in policy and direction.

"In the event a group wishes to finance a project, it is my opinion," says Fred Ginsbern, "that all the monies needed to run such a project be deposited in advance. A general contractor should be employed; a lawyer should be employed, and a certified accountant should be employed. . . ."



The house built for the Rubins (top photo) is currently owned by a family named Kamen. Planned for parents, two children, and two grandparents, it is built on the most favored site in the development, from the point of view of costs, since it is level, has no rock, is surrounded on three sides by a road, and has a near-by stream.

The living-room photo is in the Glaberson house, which has an exceptionally open plan, with living room, dining area, entry, and kitchen separated only by partial-height casework and the mass of the fireplace.

clients for housing: the speculator

1

2

3

Frank Lloyd Wright has slyly said "pity the poor client." On the other hand, clients for housing built for personal profit, it seems to us, are rather to be won over to the advantages of good design than to be pitied. That architects *can* succeed in this task is illustrated in the three apartment houses and one builder development shown here.

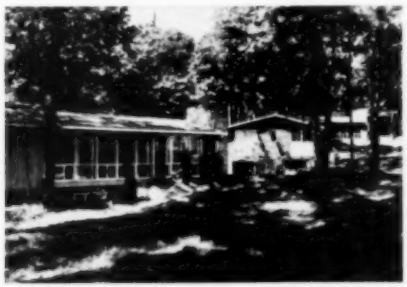
True, a highly specialized set of peculiarities surrounds such a client. Since he will not occupy the buildings himself, he has a strong tendency to ask that nothing go into them except what will result in the fastest possible sale or rental, so that he can move on to the next enterprise.

Most investment projects involve the borrowing of funds. So, while this client must meet the *requirements* of mortgage agencies, whether private banks or the mortgage-insuring government agencies FHA and VA, he will often—and unprotestingly—meet their prejudices as well. FHA's 608's are notorious for mediocre design, due primarily to rigid, unrealistic standards rigidly interpreted by local offices; in general, 207's have fared hardly better.

One answer, so far as the architect can help find it, is in the area of helping the entrepreneur understand better design and by encouraging him to fight FHA and lending-agency prejudices. An increasing number of builders are proud to be known for building the *best* houses or apartments in town (The Southwest Research Institute's awards have been a real help here). And some have become convinced that providing the best is also the soundest business (see pages 80-92).

Another possible, but untypical, answer turns up in two of the three apartment houses shown here. The architects were themselves the entrepreneurs, and there is no question but that the over-all design results are excellent and that most, if not all, of the usual difficulties in doing a good investment job have been overcome.

4



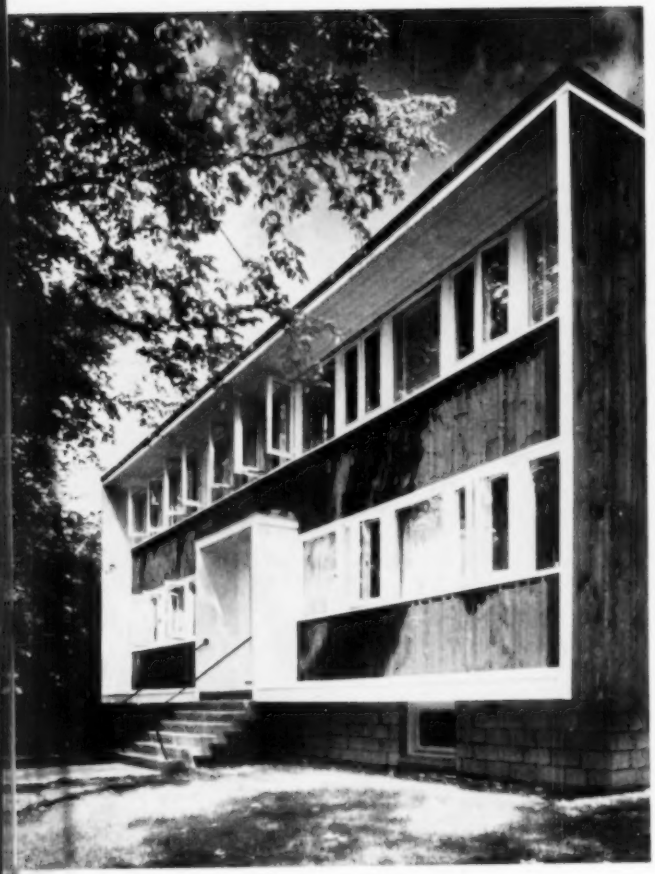
1 *apartments: Burlington, Vermont*

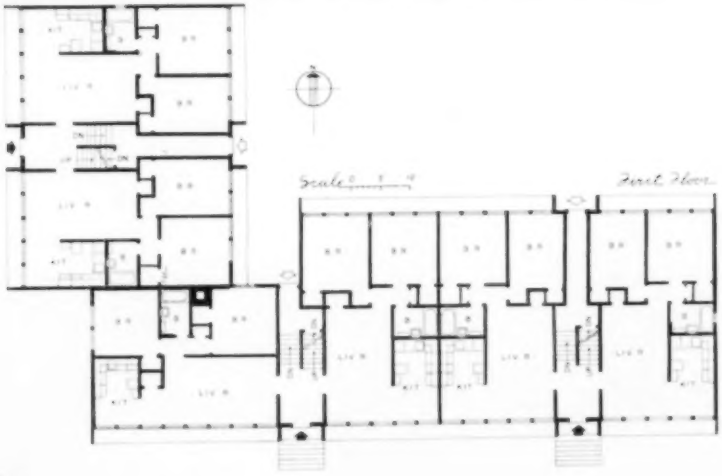
2 *apartments: Los Angeles, California*

3 *apartments: Seattle, Washington*

4 *builder housing: Wheaton, Maryland*

apartments: Burlington, Vermont





architects	Whittier & Goodrich
engineer	N. E. Jennison
general contractor	Stephen Fascitelli

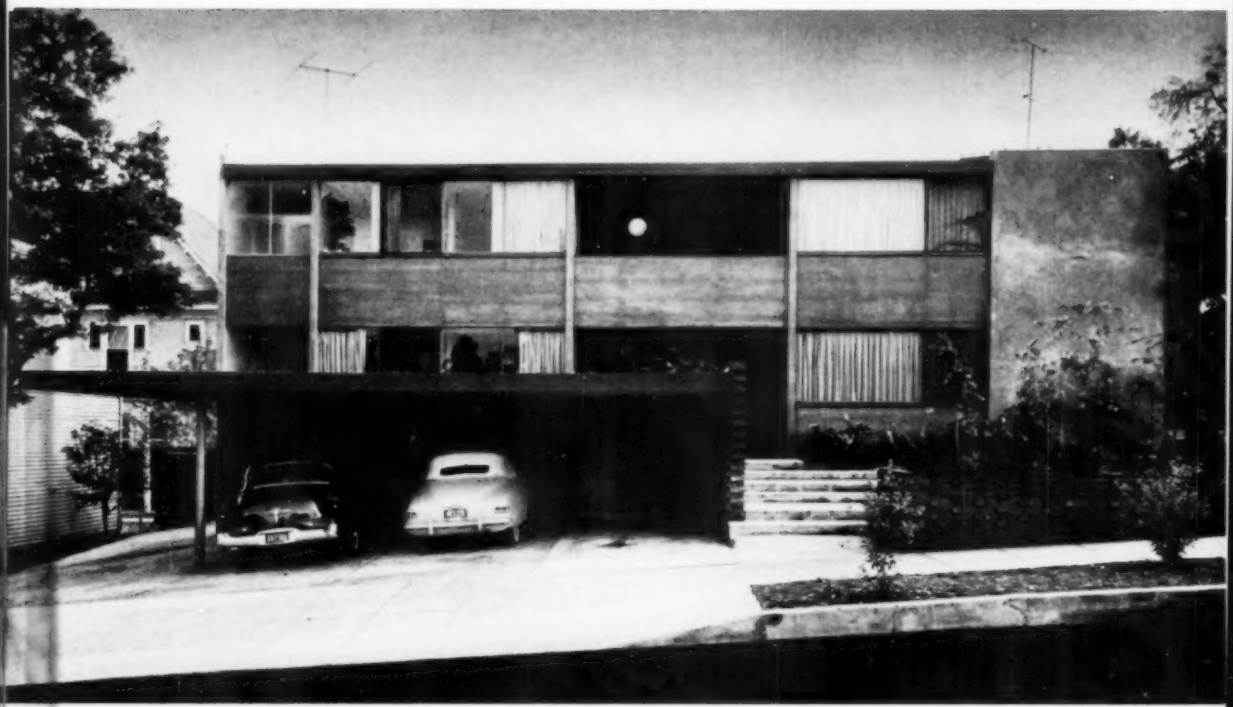
The client wanted a building with 12 two-bedroom apartments, to be built under FHA-207 requirements. The site is an 88' x 167' corner lot, with a contour drop of 9 feet, from southeast to northwest. Soil conditions dictated the use of recessed foundation walls.

Storage rooms, a laundry, and the boiler room are in the basement; the first floor (*plan acrosspage*) is duplicated on the second, except that windows occur at hallway ends, and the space occupied by rear-exit passages on the first floor is used upstairs for larger bedrooms.

The exterior design derives from the recessed-foundation requirement, plus the architects' wish to use large expanses of glass; the hooded entrances were designed to provide greater sense of separation.

Foundations are concrete block; the frame walls are surfaced with vertical siding outside and board-lath and plaster within. Double-stud insulated walls between apartments are designed for 45-decibel reduction. The building is heated by a continuous forced-circulation hot-water system. *Photos: Richard Garrison*

apartments: Los Angeles, California

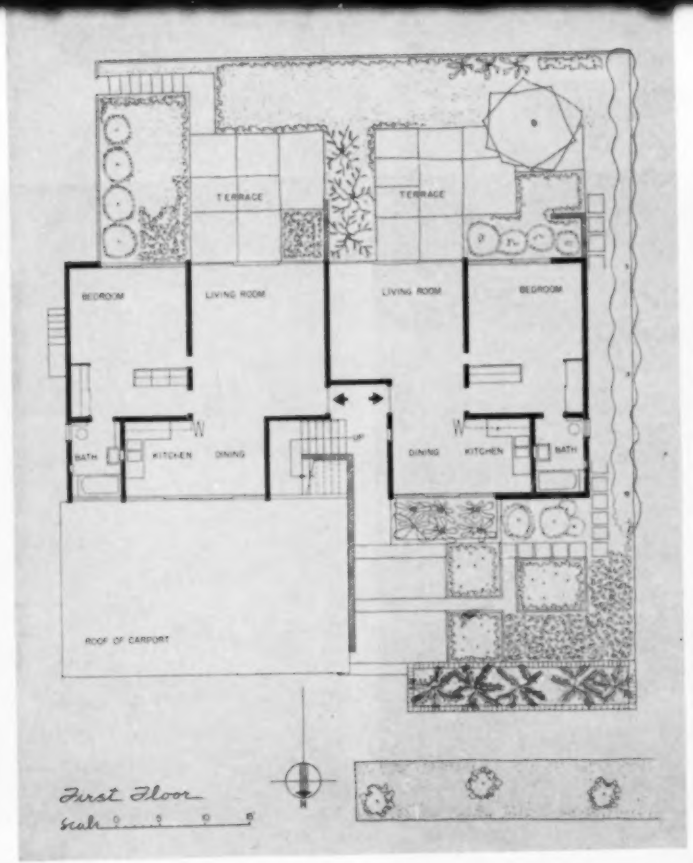


architect	Carl Louis Maston
landscape architects	Eckbo, Royston & Williams

In this case, the architect was his own client. Having recently built an apartment building near by for an outside client, he tells us: "I was so impressed with the success of this type of building for the needs of this area that I became intrigued with the idea of doing the same thing for myself." In this connection, he emphasizes that "greater latitude is possible when building with your own money—or, as in this case, private financing." The site is a small lot in a close-to-town section.

The planning goal—"to design the number of apartments that could be provided with no sense of crowding or lack of privacy"—resulted in four one-bedroom units (the upper floor, except for the carport, is identical with the first). Downstairs apartments have private gardens.

Structure, for economy's sake, is of frame; exterior spandrels are surfaced with plywood; interior walls have plaster finishes. All living and bedroom floors are carpeted, for sound reduction and "because people prefer them." Kitchens and bathrooms have asphalt-tile floors. Sliding steel sash were used; the apartments are heated by gas wall furnaces, and sound control is assisted by resilient clips in the ceiling construction.


TERRACE
TERRACE
BEDROOM
LIVING ROOM
LIVING ROOM
BEDROOM
BATH
KITCHEN
DINING
DINING
KITCHEN
BATH
ROOF OF CARPORT
First Floor
Scale

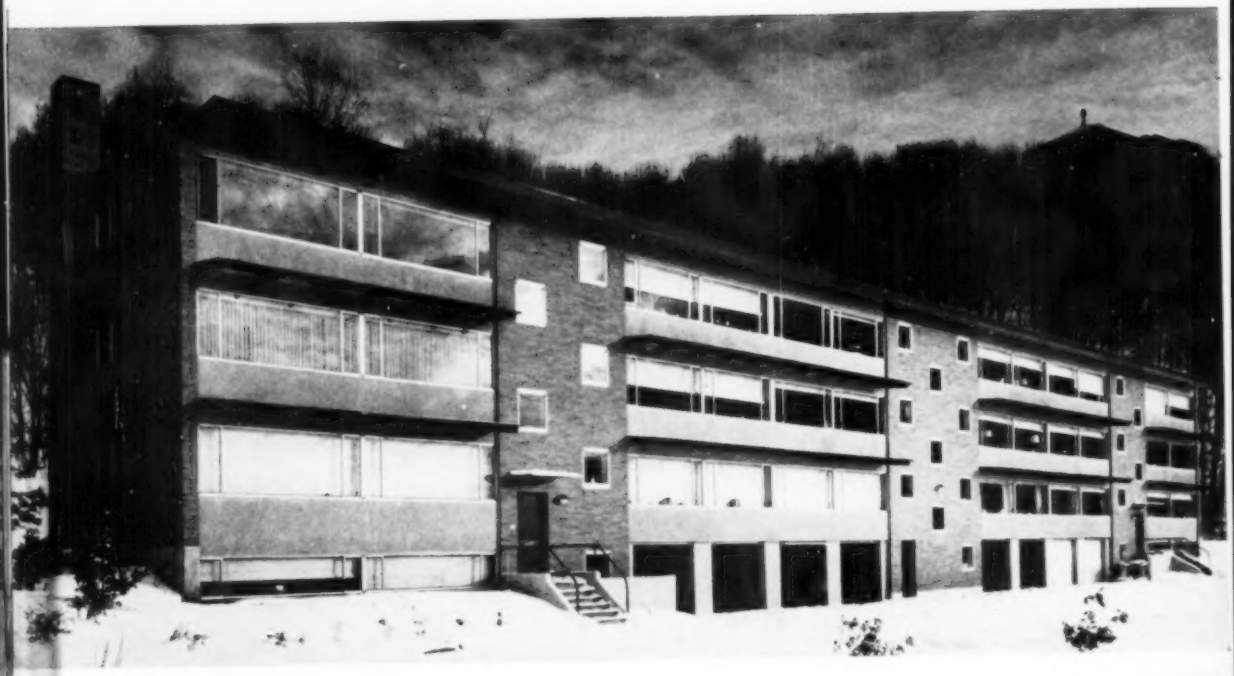
apartments: Los Angeles, California

On the south, the two ground-floor apartments have private, landscaped gardens (two photos, left), *separated by a projecting dividing wall. In bedrooms* (below, left), *storage space includes a ceiling-height wardrobe with sliding doors and (left of photo) a 6-foot-high unit to take care of coats, linen, and general storage. Kitchen-dining rooms all face north.*

Photos: Julius Shulman

The living-dining space (two photos, left) *constitutes a floor-through unit, with windows (sliding steel sash) on both north and south walls. The architect provided draperies at all windows "to avoid the confusion caused by tenants putting in miscellaneous hangings." Living-dining areas have wall-to-wall carpeting; some walls are finished with Philippine mahogany paneling.*

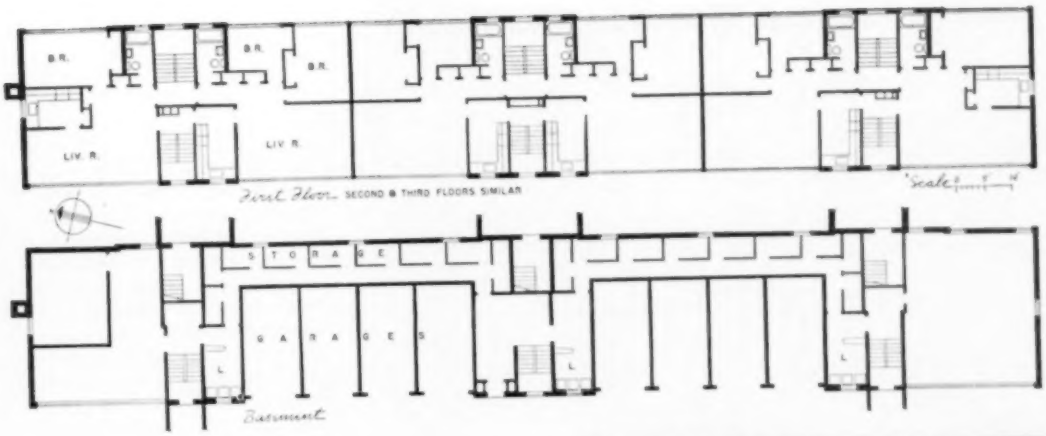
apartments: Seattle, Washington



architects	Chiarelli & Kirk
mechanical engineer	Richard Stern
contractor	Nestor Construction Co.

Financed under the FHA-608 program, this apartment house, like the one immediately preceding, is owned by the architects who designed it. The western slope of the site commands a view across Lake Union to the Olympic Mountains beyond. An early decision, therefore, was to place all main living rooms on the west; other major program requirements were that there be as many 2-bedroom units as possible, and that all apartments have both east and west exposures.

The solution is a three-story-and-basement building, with four 2-bedroom units and two 1-bedroom units on each of the three upper floors. Slatted sunshades above the big western windows (aluminum sash) assist sun control and serve as catwalks for window-washing. Each rear stair-tower leads down to its own basement laundry. Structure is frame, with brick veneer and —a code requirement—reinforced concrete garages. Spandrels between window strips are stuccoed. Insulated, staggered-stud partitions occur between all apartments, and sound control is further abetted by ceiling and floor construction that includes a layer of insulation board and an air space formed by sleepers on which the oak flooring was laid. The building is heated by an oil-fired furnace serving both radiant panels in certain wall areas and baseboard convectors. *Photos: Dearborn-Massar*



Selected Details of a typical front entrance and an apartment kitchen, on pages 129 and 131.

builder housing: Wheaton, Maryland

architect	Charles M. Goodman Associates
developers	Paul I. Burman & Paul Hammond
builders	Hammond Homes, Inc.

This development—Hammond Wood—adjoins an earlier project worked out by the same architect-builder team—a team that was established after Hammond & Burman had not only admired houses previously done by Goodman but had seen how fast they sold.

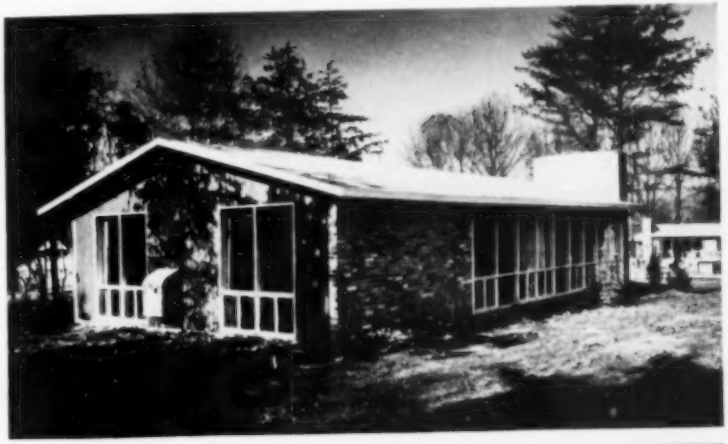
The site is a 15-acre tract of heavily wooded, rolling land. A former plan for the property, with a street bisecting it longitudinally in a straight line, was abandoned after the developers purchased the property, as it would have involved excessive cut and fill, removal of many handsome old beech and oak trees, and would

have resulted in uneconomically deep lots. Curving of this road (Pendleton Drive) and introducing an intermediate cul-de-sac (Highview Court) made the scheme conform more closely to the topography and also made much better economic use of the land. The narrow block on the southwest side of Highview Avenue had been cut into a series of very narrow and deep lots; redesign produced the series of squat cul-de-sacs seen in the plot plan—a good choice, the architect tells us, since "the buying public all scrambled to get into these cul-de-sacs." High initial cost of land dictated reduction of individual lots to as small as one-sixth of an acre; but to compensate for this to some degree, it was determined to retain as much of the natural condition — slopes, trees, etc., — as possible. Basic house types were developed to fit the various site conditions. Exact locations of the houses were decided after a most painstaking study, both in the field—walking about each lot, noting locations of specimen trees— and on paper, in the office, adjusting units so that every house would have an unobstructed view.

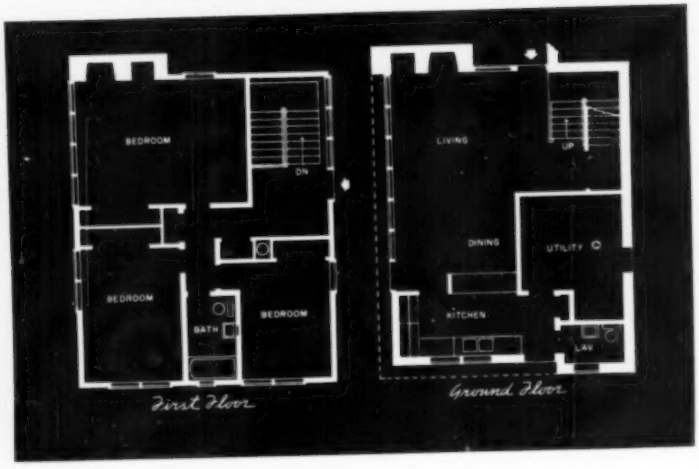
House planning had as its base the need of the average family for a 3-bedroom house, with 1000 square feet as a minimum. "Our object," the architect says, "was to provide as much living space as could be squeezed out of the budget and to make that space look even larger by every possible means." Among such means are: the ceiling that follows the roof slope; placing the hall, leading to bedrooms, so that one can stand in the living room and look down the hall and on through the bedroom to outdoors; and the use of glass "view walls." Of particular interest are the two-level houses (pages 91-92) that give the purchasers an ingenious expanding-plan potential.

The house on this page is the typical, single-level, three-bedroom house (1100 square feet), that sold for $12,400, plus $1500 for the land. As with all houses at Hammond Hill, construction consists of two major parts—(1) masonry block, unpunctured, that serves as the diagonal bracing of the frame and (2) view walls, consisting of exposed, structural 2" x 6"'s spaced to take the standard 3'-4" sash. Exterior walls are of cypress or used brick.

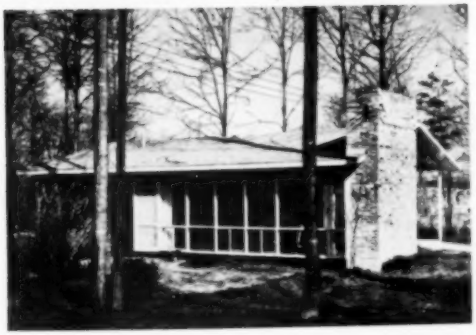
Photos: Robert C. Lautman



Wheaton, Maryland

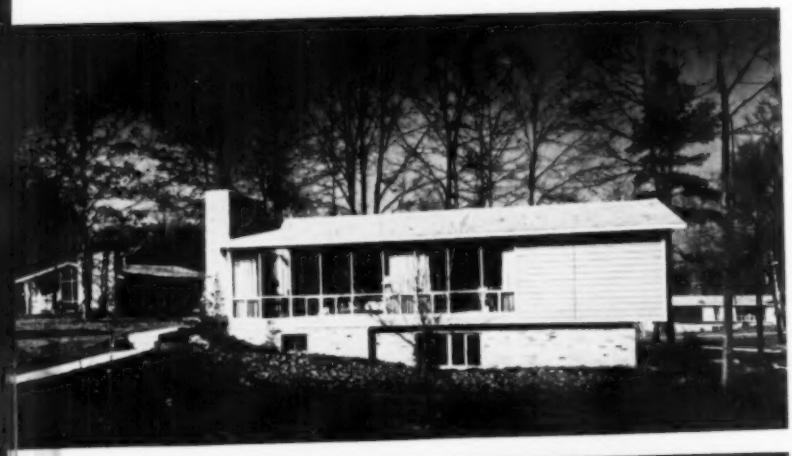


For the buyer who wanted a finished, two-level house with three bedrooms, the type house shown here was developed. Note that the plans are the exact reverse of the house in the photograph, illustrating that plans for all of the house types were "flopped" where site conditions or orientation required it. This house is so placed on a slope that it has exits at grade on both levels. Total floor area is 1620 square feet. The most costly of the houses in the group, it sold for $16,700, plus $1500 for land.



The most provocative house types that the architect developed for the project are the two-level units shown on this and the following page. The idea behind them was "to utilize the terrain to gain added living area, but keep the sales price as low as possible." Hence, on construction, only the upper level is finished; the ground floor is left unfinished and unsubdivided but includes plumbing roughed for a future bath and space for another bedroom, recreation room, and laundry-utility room. The two-bedroom house has 900 square feet upstairs; 850 downstairs. Sales price: $13,400, plus $1500 for the land.

Wheaton, Maryland



Similar in design approach to the house on the preceding page, this is a three-bedroom model that came on purchase ($15,400, plus $1500 for land) with a finished first floor and unfinished ground floor. The single-level 3-bedroom house (page 89) sold for $12,400. Thus the purchaser of the two-level house obtained the additional 900 square feet of the ground floor for $3000—or about $3.34 a square foot. Heating of all the houses is by gas-fueled forced warm air with supply registers in the floor at all glass areas.

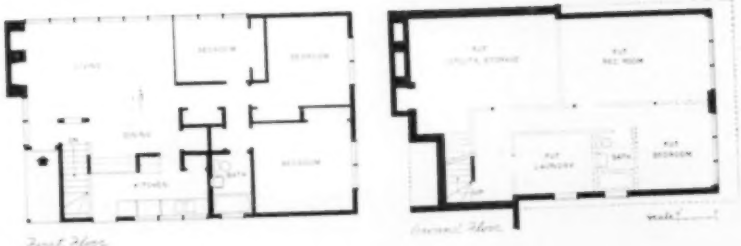
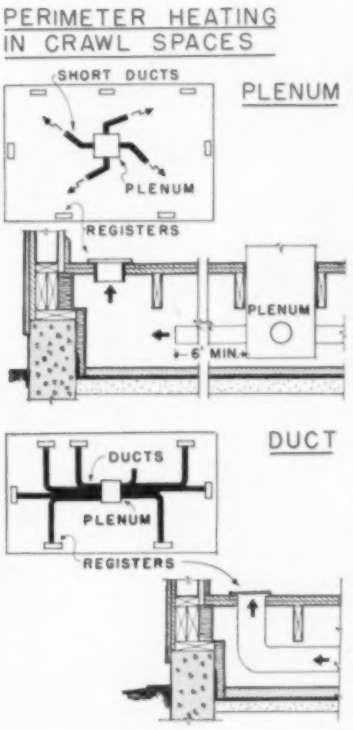


Figure 1—variations of perimeter systems in crawl spaces and slabs.
All drawings: Raniero Corbelletti



crawl space: perimeter heating

by William J. McGuinness*

The problem of heating a basementless house built over a crawl space or on a slab has now been most satisfactorily solved by the warm-air heating industry. The solution provides for several systems, each of which assures uniform temperatures through the house, warm floors and walls, fast response, and a minimum of fluctuation. In spite of insulation, neither conventional radiator heating nor the usual forced warm-air system has been entirely satisfactory in producing uniform comfort in basementless houses. Baseboard, hot water, and warm-air radiant heating have solved the problem at somewhat greater expense. The new warm-air perimeter systems have proved their effectiveness and economy in this phase of heating. The customer has a number of variations to choose from; several of them have become extremely popular.

The National Warm Air Heating and Air Conditioning Association has been developing and cataloguing the best practices through its intensive research program and field testing laboratory. As recently as January 1952, its first complete manual of *Warm Air Perimeter Heating* appeared. Prior to this, however, thousands of installations had been successfully completed and operated with benefit of field advice. C. W. Nessell, who is in charge of the field laboratory, describes the performance of the new crawl-space plenum system as "quite spectacular." The perimeter-loop system for slab use was the first of these methods to be developed. It has wide acceptance and, according to the Federal Housing Administration, has taken its place in equal popularity with all of the older, conventional systems.

the perimeter group

Crawl-space plenum. A central down-flow furnace supplies warm air to a short-duct system below the floor, the ducts being only long enough to distribute the air well within the crawl space. Warm air then enters the rooms above through adjustable registers placed below the windows. Return air in this and all perimeter systems is collected at a grille in an interior wall and returned through a short duct to the furnace.

Crawl-space duct. Instead of using the crawl space as a plenum, ducts connect the down-flow furnace with the registers at the building perimeter. In small houses radial ducts can be used for this purpose, and in large houses an extended plenum or conventional trunk and branch system is suitable. One warm-air outlet in the crawl space warms it to at least the temperature of the rooms above.

Slab radial. This is the simplest method of connecting the furnace to the perimeter registers. The radial pipes are not quite as effective in warming the perimeter as the loop system and should not be used in houses exceeding 1000 square feet in area.

Slab loop. A perimeter loop is supplied by radial feeder ducts or pipes. Registers are fed from the perimeter loop. The pipe system creates a radiant floor which is particularly effective along the outside wall where the heat loss is greatest. (*Figure 1 illustrates the variations of perimeter heating.*)

Slab lateral. This method (*not illustrated*) consists of a down-flow furnace which supplies an underfloor distribution channel along the center of the house. Lateral pipes extending from the channel feed a perimeter air passage, all contained within the slab. From the perimeter pipe, a continuous baseboard slot or individual floor registers may be served. This approaches the principle of warm-air radiant heating and should have competent engineering design to be successful.

*Professor of Architecture, Pratt Institute, Brooklyn, N. Y.

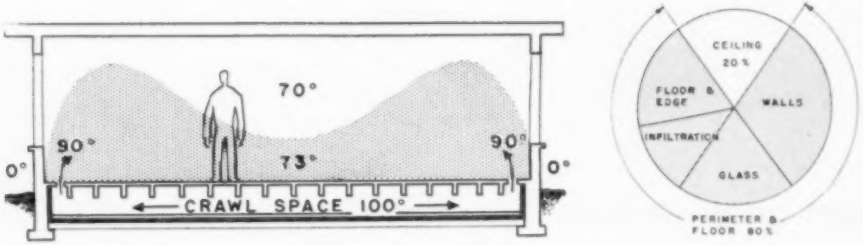


Figure 2—distribution of hourly heat loss from a small house on a concrete slab (right). *In perimeter systems, heat is applied at source of greatest heat loss* (left).

new concept of heating

Radiant heating has made us very conscious of the fact that the rate of radiant heat loss from the body to surrounding surfaces has a great influence on our comfort. In most heating systems developed recently, there has been an effort to have the occupant live within warmed surfaces of reasonably uniform temperature. Very cold surfaces must be eliminated if uniformly comfortable conditions are to be established. At the higher end of the scale, the source of heat in the form of warm air or radiators must operate at lower temperatures if we are to approach ideal conditions. It is now well known that the greater loss of heat through a slab or in a crawl-space house is along the perimeter rather than generally downward through the floor. Thus, the perimeter, walls, and glass are the coldest surfaces (*Figure 2*). The ceiling is somewhat warmed by the heated air that collects there. Now, if it is possible to warm these cool surfaces first and, in doing so, cool off the supply air so that it enters the room at a more agreeably low temperature, much of the above can be achieved. The method of doing this, obviously, is to pass warm air below the floor and then bathe the exterior walls and glass with the air from the registers. At the same time, the effect of infiltration which occurs at the outside walls is mitigated (*Figure 2*).

This is a new departure for the warm-air industry. For many years, inside walls have been used for supply ducts and registers and the cooled air collected at cold spots near the outside walls. Economy in the use of shorter ducts was one reason for this type of design. Another reason was the feeling that the warm air would be cooled unnecessarily in the outside walls without creating any warmer surfaces. As a result of this pactice, which still persists, the cold spots remained very cold. In many modern houses, the cool air is taken in a return grille or slot at the floor in front of large glass areas. This is intended to prevent the cool air from flowing back along the floor, but it is not always effective and the scheme usually results in a cold wall and window. Besides discomfort, much condensation results. The most recent trend even in conventional ducted systems, is to supply the air at the base of glass areas and this, of course, is the method used in all perimeter systems. Since there is no "cold" air but merely displaced air, it can be collected at any point remote from the supply registers. In perimeter systems, this is usually at a point or several points in the wall near the furnace.

crawl-space plenum

Prior to the introduction of perimeter heating, it was customary to supply heat within a room above a crawl space. Among the heat losses was the loss to the cold, drafty space below the room. Seldom was the insulation in the floor as effective as that in the walls or ceiling. Frequently, the crawl-space ventilators or windows were ill fitted or left open during the heating season. Result—cold floors and fuel waste. The crawl-space plenum system makes a room of this space and heats it with air at an average temperature of about 100F. A floor temperature of about 80F, and quite uniform, is thereby provided. This is within the range of usual floor temperatures in radiant heating and so the floor can be considered a truly radiant surface. The convection air entering the room is not much over 90F and far more moderate than the common 165F of conventional ducted systems. Temperature differentials between floor and ceiling in this and other perimeter systems can be kept within 4 to 7 degrees and, with careful balancing, the various rooms can be maintained at temperatures within 2 or 3 degrees.

The stub-duct system must have at least four ducts, each not less than six feet long (*Figure 3*). They must point to the corners of the house in order to reach the cold spots. The crawl space should not be more than about 18 inches deep below the joists; where a girder might block the flow of air emerging from a duct, the duct should be extended to a point past the girder. In L-shaped or other irregularly-shaped houses, the ducts will similarly have to be extended. It will be understood, however, that this system is not adaptable to large, rambling houses and is limited to houses having an hourly heat loss of not more than 100,000 Btu. Rapid shrinkage of floor joists may be expected and should be allowed for in the planning of moldings which can be reset. It is not unnatural and is merely an acceleration of the shrinkage that would take place in any case.

perimeter loop

This arrangement is ideal for houses on a concrete slab, and having an hourly Btu loss not exceeding 100,000. Houses with a loss of less than 60,000 may use the radial system in the slab. This kind of heating is a precise answer to the findings of the National Bureau of Standards in its early research on heat losses from slabs on the ground. Summarized in BMS 103, the Bureau's study showed the edge loss to be of greatest importance and dispelled the former theory that ground losses should be based upon the area between the house and the ground. In the case of a house above a crawl space, this edge loss does not affect the even distribution of floor temperatures which are quite uniform because of convection currents. In the case of a house built on a concrete slab, the edge tempera-

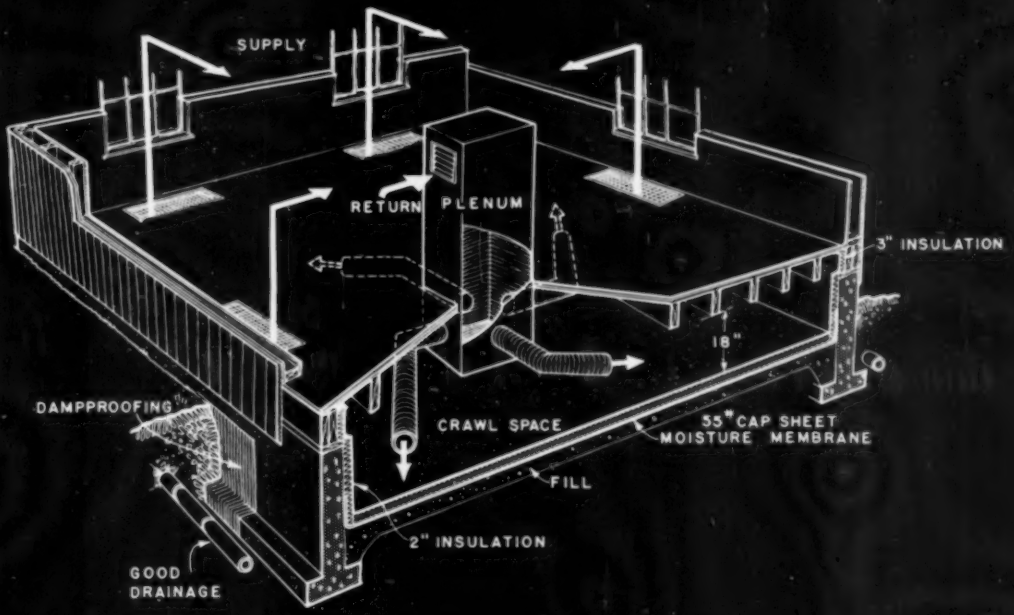


FIG. 3 SCHEMATIC VIEW OF HOUSE USING CRAWL SPACE PLENUM SYSTEM

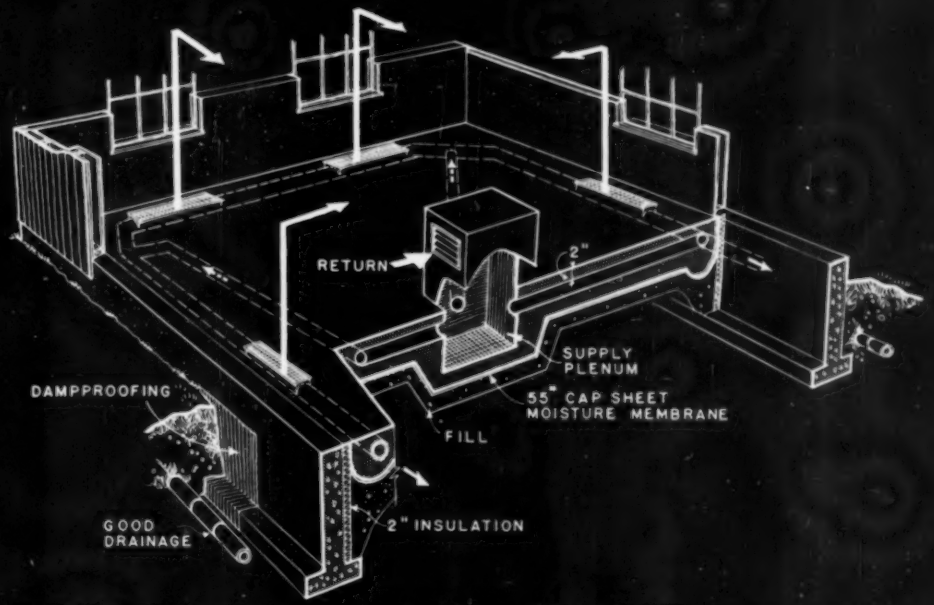


FIG. 4 SCHEMATIC VIEW OF HOUSE ON CONCRETE SLAB USING PERIMETER LOOP SYSTEM

tures are distinctly lower, even with good edge insulation. By warming the perimeter, these heat losses are offset. The combined system of radial feeders and perimeter loop forms a radiant slab which, while not quite as uniform in its action as the floor above a crawl space, produces uniform comfort at all points.

The ducts may be of galvanized sheet iron or of vitrified clay tile. They must be well fitted to prevent concrete from leaking into them during pouring. The light-metal ducts must be wired down to prevent them from floating while the concrete is cast. The clay tile will stay in place, but must be carefully grouted and calked to prevent leakage. Feeder ducts start at a level 5" to 6" below the floor surface and terminate about 2" below, so that as the air cools it will heat the slab surface more efficiently. Conversely, the hotter air will not overheat the interior portions of the house where 6" of concrete prevents speedy heat conduction from pipe to surface. The feeder ducts must terminate at the coldest locations, usually the corners of the house. Feeders should not supply more than about 15,000 Btu per hour, and registers not more than 8000. With these figures the preliminary arrangement can be sketched out at once. There should not be more than three registers between feeders, the distance between feeders should not exceed 35', and no register should be more than 15' from a feeder. Feeders must connect to perimeter ducts at right angles.

insulation and dampproofing

Under design conditions it is evident that a temperature of about 100F in the crawl space and 100F or more in the perimeter duct will cause a greater heat flow to the outside air than from a normal room temperature of 70F. By placing warm air close to the points of greatest exposure, the loss is accelerated. The usual edge factors cannot be used. In the case of a concrete slab, 1" insulation passes 47 percent more heat than 2" insulation. While 1" is acceptable for performance, consideration of 2" is recommended. The loss through 2" may be computed on the basis of 65 Btu per hour for each foot of perimeter. Similar factors govern the selection of insulation for the walls of crawl spaces.

None of these systems must be used in damp ground. The greater density of moist earth increases the heat conduction and fuel bills will be excessive. This point cannot be emphasized too strongly. Drainage and the dampproofing of foundation walls are suggested and moisture barriers below slabs and crawl spaces are imperative. The material usually chosen is 55-lb. cap sheet, plastic-cemented together on 4" laps. Under slabs, it must enclose the entire heating system and extend up to the floor surface (*Figure 4*). Crawl spaces are protected by a layer which turns up 6" behind the insulation. In this case, the moisture barrier serves a double purpose. Its second use prevents the air from picking up ground moisture to subject the house to a humidity far in excess of proper limits. Crawl spaces must be airtight. Insulation must be of the waterproof type. Joists against the exterior sheathing must be insulated with 2" or 3" of batt-type insulation. The 2" gravel cover over the barrier in the crawl space is optional, but the gravel base below barriers in all systems is necessary.

design and controls

The National Warm Air Heating and Air Conditioning Association provides design work sheets for all these systems, each of which differs slightly. Slab feeder and loop ducts range from 6" diameters carrying 6000 Btu per hour to 8" diameters carrying 15,000 Btu per hour. Hourly heat losses from rooms are computed in the usual way except that, in the case of crawl spaces, the area is computed as a room losing heat at a faster rate because of its high temperature.

Return air can be exhausted from closed rooms by grilles over the door (*Figure 5A*). Floor registers are preferred to wall registers. They should discharge on the room side of drapes and have a wide spread in both directions (*Figure 5B*). Return-air ducts must be sealed at the furnace, otherwise the air may be drawn in as combustion air by the furnace. Because most installations have furnaces at interior, and often closed, locations, it may be necessary to admit air from a vented attic for the sake of combustion (*Figure 5C*). In no case may the furnace room be used as a return plenum. Continuous operation is favored because it prevents stratification that might occur between widely separated periods of operation. The fan is turned on when bonnet temperatures reach 110F and off when the discharge temperature drops to 80F. This assures practically continuous operation at outdoor temperatures of 45F and lower. Arrangements are made so that the burner will operate at frequent cycles. At mid-design temperature, it will operate three minutes on and three off during the hour, thus changing to more "on" and less "off" as the outside temperature drops.

performance and economy

The already widespread acceptance and installation of these systems is sure proof of their value to satisfied owners, both in operation and in installation cost. They are light on critical materials and do not call for any unusual skills to design or install. Their compactness and adaptability to modern design is unquestioned.

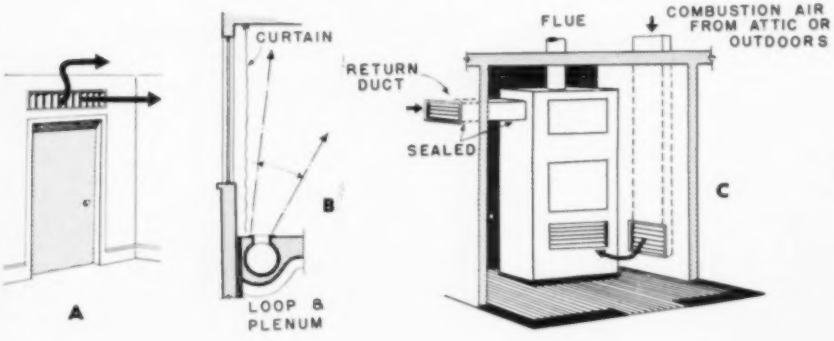


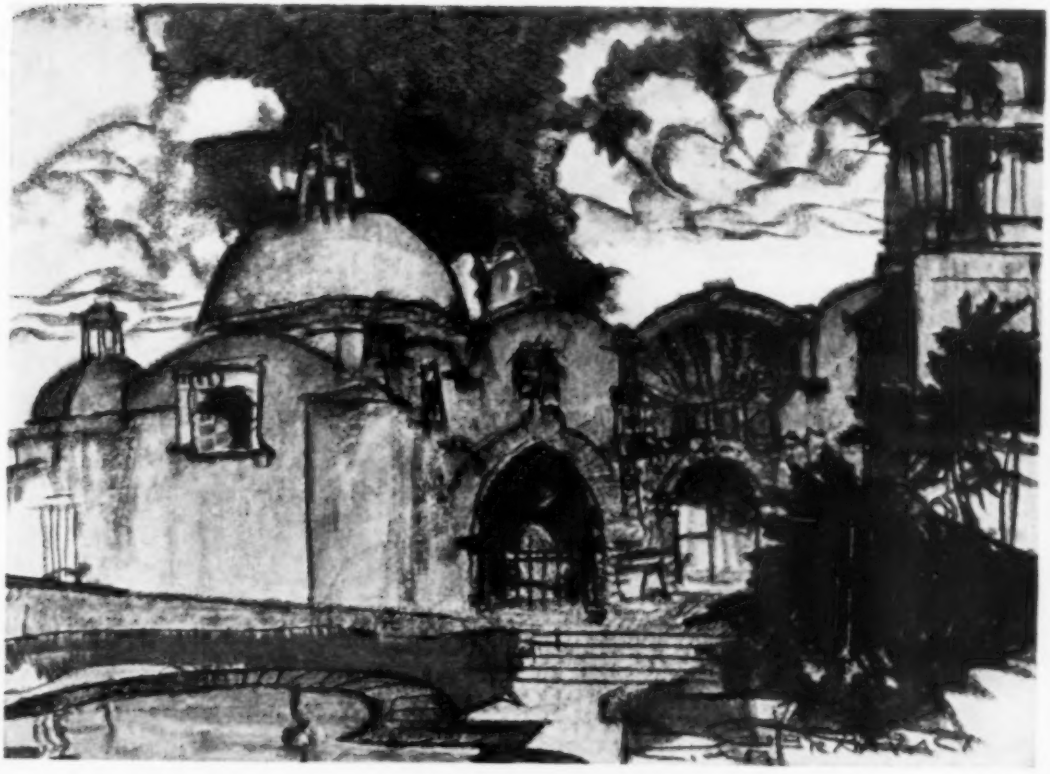
Figure 5—Various methods for control of air flow.

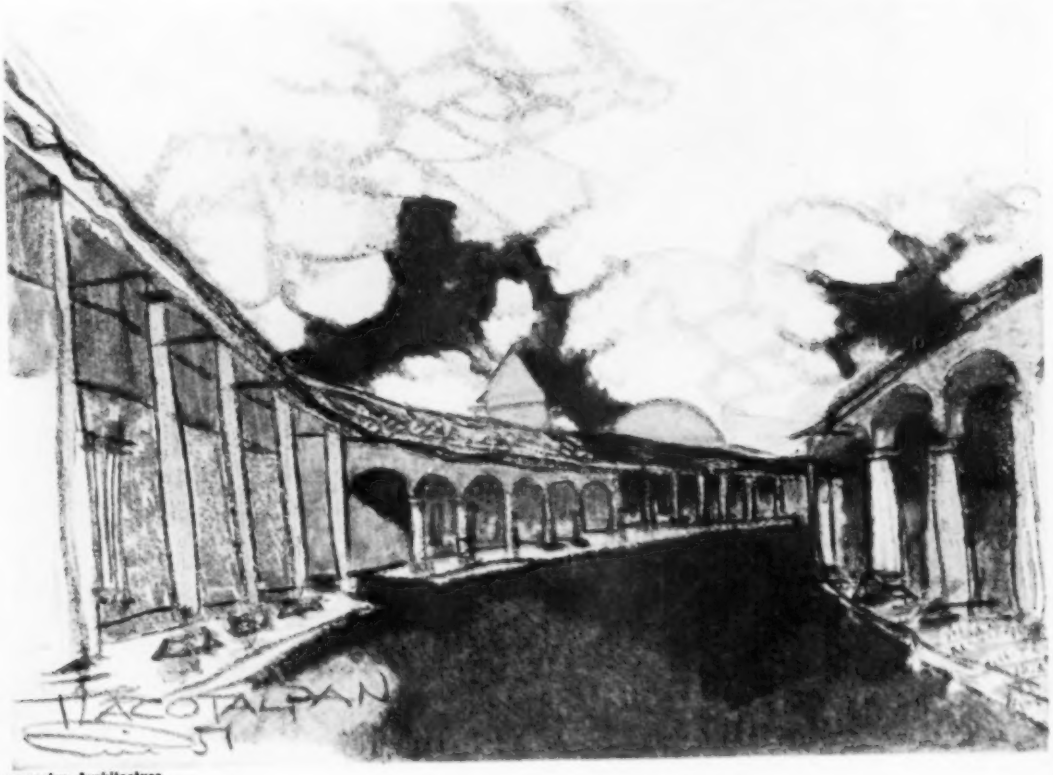
Mexican Sketches

Mention of the name of Richard J. Neutra brings to mind the brilliant architectural accomplishment over the years of a man who, on arrival in this country, went to the West Coast to pioneer in progressive design and persevered against considerable odds, not only to become accepted in his chosen locality but also to win recognition as one of the world's most distinguished architects.

A less well known Neutra accomplishment is his hobby and regular practice of making extraordinarily deft pastel sketches—"five-minute sketches" he insists—wherever he finds himself in the world. In May 1945 P/A were reproduced a few of these engaging sketch notes, made by Neutra during travel in South America. Herewith are some of the colorful pastels—a mere fragment selected from a bulging sheaf of them that he showed us—made last year in Mexico. Invited by Carlos Lazo, Co-ordinator of the Ciudad Universitaria, to be one of the honorary delegates at the Scientific Congress and the Quatro Centennial Celebration of the University of Mexico, Neutra was inspecting the tropical and subtropical rural resettlement projects in the Papaloapan and Tepalcatepec Basins when these graphic notations were made.

At left, Neutra is seen during a five-minute interlude, considering which crayons to select.




TLACOTALPAN

Church in Xochimilco

Cosamaloapan, a town by the river

Old stove with seven charcoal pits

Pazquaro

Green streets, without traffic, tropical Tlacotalpan

new directions in thermal insulation

by Groff Conklin

PART I: THE PROBLEM OF NONRESIDENTIAL STRUCTURES

Time was when all an architect had to do was to enclose space esthetically or cheaply. Sometimes he did both and was called a genius. But that was just about all he did. People were used to spending lots of money for coal in the winter and being hot indoors in the summer.

Today, however, the architect has to be more than esthetic, economical, and aware of a few important engineering stresses. He has to know a little about heat engineering, and acoustics, and insulation materials. He has to know something about natural and artificial ventilation, and sun control devices, and microclimatology, and dozens of other things. The days are past when a man who carried a rafter table in his head was a leader in his profession. Today the man who counts is the bulbous-browed type who can remember the conductivity of dried algae and the perm rate of peanut-oil-base paint (if any).

In other words, the architect has to think of buildings dynamically today. They are no longer tiers of brick or slabs of wood with holes in them to see through. They must *perform*, thermally speaking. They must be efficiently operating cost-savers and comfort-givers, not just inanimate shapes providing shelter from the elements.

In the modern residence it is taken for granted that thermal insulation is the means which most economically and efficiently enhances interior comfort and livability the year round—insulation and, in some parts of the country, double glazing. But in larger buildings of different function, the answer to the question of operational economy and human comfort and efficiency is considerably less clear. Indeed, it can be said to be murky.

For example, the average up-to-date multi-family apartment house and hotel, and most hospitals, office buildings, factories, public buildings, and lofts being built today, omit insulation in the outer shell, especially if the glass area in the wall is large. Naturally, there is a sizable increase in annual operating costs to pay for the unnecessary heat loss in the winter, and also for the equally unnecessary heat gain in the summer for those buildings that have air-cooling systems.

Roofs generally are insulated, though in the 20-story building not so much for economy's sake as for the sake of making the top floor more comfortable in hot weather. Heat loss in winter is reduced, of course, but the proportionate size of the roof area to the areas of the walls in a multi-story building is often so small as to make the fuel saving a vanishing factor.

Why, one cannot help wondering, is this seemingly wasteful difference in common practice between the completely insulated residence and the nonresidential building with no insulation in its walls and no double glazing, permitted to exist? The reasons are difficult to state logically, perhaps because they are not logical in themselves.

Certainly no sound reason can be given for the omission of thermal insulation from the walls of buildings which are not all glass. The cost of materials and installation can be absorbed by savings in the heating plant and in fuel, as will be shown later. When the nonresidential structure is largely a curtain of glass, as certain types of buildings are today, the question of the advisability of using the much more costly double glazing arises, bringing with it the serious problem of an inordinately increased original investment—or so, at least, most investors in new buildings undoubtedly tend to think.

But are they right? The question is simple. Will the savings resulting from smaller heating plants and radiator areas, plus the savings in fuel consumption over a reasonably short period of years, warrant the extra initial expenditure for the double glazing?

The answer depends on whom you talk to. In general, it is believed that double glazing is too expensive and that the savings would not balance the cost within a reasonably short number of years. The same reasoning must apply to wall insulation as well, too, since so many nonresidential structures are built without using such materials.

But is this thinking sound? Let's take a look at a few plain, physical facts.

Glazing. The heat loss coefficient, or U factor, for a piece of ordinary window glass is 1.13. This means that 1.13 Btu of heat will pass through one square foot of glass every hour for each degree of temperature differential on the two sides of the glass. On the other hand, the U for the thinnest double-glazing unit, which has about ¼″ air space between the sheets of glass, is given as 0.61 Btu. The ¼″ double glazing thus saves almost one half of the heat normally lost through glass—exactly 0.52 Btu per square foot per hour per degree difference in temperature.

Of course, should an ingenious architect design double windows—not airtight but normally snug—to be built so that they are at least ¾″ apart, he could achieve a heat loss of only 0.54 Btu, the average loss for a double window that takes full advantage of the insulating value of an air space. According to National Bureau of Standards tests, that space should be no less than ¾″ wide for maximum insulating efficiency—not the ¼″ or ½″ that commercial double-glazed window units are made in.

Walls. Here the situation is equally startling. Take the popular (and expensive) cavity wall, which is being used in so many institutional structures today "in place of" insulation. This wall does take advantage of the full insulating value of an air space; the only thing wrong with it is that the air space, unlike glass, can be filled with an insulating material with a much higher heat-saving efficiency. If you did this with a double-glazed window you would have a considerably better insulating efficiency, but you would not have a window.

Actually, the air space in a cavity wall is not an efficient insulator. An enclosed air space ¾″ or more in width has a heat loss of 1.10 Btu when it is vertical, and

about 1.31 when it is horizontal, as in roofs. The heat loss factor of an inch of mass insulation is between 0.24 and 0.33, depending on the material. The conductance of two air spaces in a rafter or stud space (one reflective aluminum surface facing each space) is between 0.09 and 0.27, depending on the position of the insulation and the season of the year. Two inches of mass insulation and three reflective air spaces are even more efficient.

And yet some very large and very important buildings—hospitals, factories, office buildings, apartments—are being built today with cavity walls using the air space as insulation. A 4″ common brick has about the same heat-insulating quality as an air space—its heat loss factor is around 1.25, which is only 0.15 Btu higher than the heat loss of a vertical air space.

The over-all heat loss of a typical brick-tile cavity wall construction ranges between 0.27 and 0.30, depending on the size of the openings provided for cavity ventilation, according to the latest tests by the National Bureau of Standards. On the other hand, the heat loss factor of the SCR insulated cavity wall now being promoted by the Structural Clay Products Research Foundation, with its 2″ of mineral wool insulation in the cavity, is claimed to be 0.12 when plastered, and only slightly less efficient when the plaster is omitted.

Likewise, a solid 8″ common-brick wall plastered over gyplath on 1″ furring strips, has a U of 0.27. The same wall with 1⅝″ furring and the space filled with flexible mass insulation has a U of 0.11. A 4″ brick—8″ cinder block wall, plastered over gyplath on ⅞″ furring strips, has a U of 0.22; with 1⅝″ furring strips and flexible insulation, the U is 0.10.

In all these cases, the solid part of the wall of any building becomes over 50 percent more efficient as a preventer of heat loss when it is insulated than when it is not. Together with double glazing, which approaches the insulated wall in heat-saving efficiency, the wall-and-window complex can be considered to be an enormous heat trap in winter and a heat barrier in summer—a much more economical element in the operation of a building, and much more comfortable for its human occupants into the bargain.

But these are suggestions for tomorrow. Today the enormous majority of nonresidential buildings use no thermal insulation or double glazing of any sort, whether they are half a century old or still under construction. Is there any experience on the record to indicate whether or not this curi-

Table I: Comparison of Radiation in Various Buildings With and Without Insulation

HOSPITALS COMPLETED	C.F. of Building	S.F. of Radiation	No. of C.F. to Ea. S.F. of Radiation	Insulation Walls	Insulation Windows
Prince Edward Island, Canada	550,000	5,100	107	Yes	Yes
Bethlehem, Pa.	750,000	3,750	200	Yes	Yes
Hagerstown, Md.	560,000	3,590	156	Yes	Yes
New Haven, Conn.	1,605,000	13,248	121	Yes	Yes
Toronto, Ont.	1,880,000	16,600	113	Yes	Yes
HOSPITALS BEING PLANNED					
Scranton, Pa.	333,000	3,343	99	Yes	No
Long Island	514,000	7,320	70	Yes	No
New Jersey	425,000	6,600	65	No	No
Glens Falls, N. Y.	605,000	7,400	85	Yes	No
Virginia	1,137,521	23,813	47	Yes	No

In the first group all except Prince Edward Island are wings added to existing structures.

Table II: Hospitals With All or a Portion of the Buildings Insulated

No.	Location	No. Beds	Days Care	Total Cost	Power, Light and Heat Cost Per Bed Per Yr.	Power, Light and Heat Cost Patient Per Diem	Proportion Insulated
	Toronto, Ont.	547	175,488	$ 40,622	$ 74	$0.23	1/2
	Prince Edward Island, Canada	200	54,037	19,373	97	.36	All
	Hagerstown, Md.	170	57,783	27,718	163	.48	1/2
	Glens Falls, N. Y.	162	59,208	19,048	117	.32	1/2
	Bethlehem, Pa.	307	89,001	58,153	188	.65	1/4
	Hospitals Which Are Uninsulated						
2	New York City	520	152,686	$163,129	$314	$1.07	
3	Brooklyn	341	96,966	117,897	346	1.22	
8	New Jersey	284	71,856	71,367	251	.99	
10	Long Island	236	69,040	77,023	326	1.12	
13	Central New York State	218	66,323	43,509	200	.66	
14	New Jersey	207	56,588	65,317	316	1.16	
19	Northern New York State	150	41,959	27,828	186	.66	
20	New York City	131	29,741	58,541	447	1.97	
22	Connecticut	134	36,157	43,130	322	1.19	
25	Long Island	110	32,843	36,775	334	1.12	
29	Westchester County, N. Y.	100	28,261	33,975	340	1.20	
35	Brooklyn	143	30,288	43,875	307	1.45	

The local figures are from a group of hospitals with uniform accounting.

ous sticking to obsolete methods has any rhyme or reason? There is—and it is all in favor of the use of modern insulating materials in nonresidential structures.

A pioneer in this still extremely limited field is a man named Charles Neergaard. It was through his efforts that what was probably the first insulated nonresidential building in the United States, and certainly the first insulated hospital, was built about 15 years ago.

Neergaard is a hospital consultant, an enthusiast grown old in the service of efficient and economical design for the nation's hospitals. He has been laboring in the vineyard for more than 30 years, and has innovated a large number of important elements in hospital design. Probably the innovation of greatest long-term importance and most general application is the insulation of walls and windows in nonresidential structures.

Neergaard's first insulated hospital was built in Hagerstown, Maryland, in 1936. As he himself puts it, this was "*the first, and for a long time the only, multi-storied steel frame building in the East with completely insulated walls and windows.*"

The resultant savings in the Hagerstown hospital are on the record. Permanent double glazing in roughly 28 percent of the wall area cost about $2.25 more per square foot installed than the double-strength glass it replaced. Three-inch insulating blocks that could be plastered cost about $0.20 a square foot more than the furring tiles and lath they replaced in 72 percent of the wall. And the pragmatic realities of this installation, as Neergaard tells them in the March and April 1950 issues of *The Modern Hospital*, were that the actual reduction in necessary investment for heating plant and radiation surfaces in the new building was essentially the same amount as the added cost of the insulation and the double glazing. The very sizable savings in operating costs resulting from lowered fuel consumption have been added to the net income column every year since.

That this rather startling economic fact is not completely out of line with reality is indicated by other savings figures from other hospitals built since, as shown in Tables I and II, reproduced from Neergaard's *Modern Hospital* article, with some slight modifications.

These savings are not, of course, the only benefits insulation has brought the hospitals. Convection currents from uninsulated windows and walls, an unpleasant and, in a hospital, often dangerous, winter problem (they usually mean a rise in respiratory illnesses) are practically eliminated in the well-insulated building.

In addition, actual tests conducted in the Hagerstown hospital showed that the insulated building was on an average eight degrees cooler indoors than the older uninsulated structures which were a part of the same hospital. The summer comfort factor is, of course, important not only in hospitals, where it is of the utmost importance, but also in any other structure in which human beings live or work during the dog days.

There is another point about wall insulation and double glazing that Charles Neergaard believes should be taken into account. This is the increase in acoustical insulating value that a wall of that nature gains over the uninsulated wall. The available figures are obscure in this respect, but there can be no doubt that there is considerable improvement in the acoustical insulating qualities and the barring of outside noises in such buildings. In cities as noisy and as distracting as our modern megalopolises, sound reduction is an important factor, especially on the lower floors of large buildings.

Neergaard likes to remark on the fact that nonprofit buildings like hospitals were the first to take up this sort of modern, efficient, economy-producing construction. He finds it difficult to understand why the supposedly hardboiled and profit-conscious owners of modern multi-storied office buildings, apartment houses, or what have you, simply let all that heat go to waste and uncomplainingly foot the bill for it. The cynic will say—oh, well, they take it out of the tenants' hides. But the answer is that they could still charge exactly the same rents as they do today and could actually add all those dollars' worth of fuel saved to their profit account.

But they don't—perhaps because, like any other client, they don't know what to ask for. They don't realize that these savings can be made, never having been told.

On the other hand, there are trends leading toward a more rational approach to the nonresidential wall. For example, Skidmore, Owings & Merrill's design for Lever House, recently completed in New York, called for cellular-glass block insulation in the spandrels. Then there is the insulation-filled cavity wall promoted by the Structural Clay Products Research Foundation, previously described — a really efficient heat-saver. There are wood-fiber-cement, wall insulating slabs that are nonstructural but self-supporting. Unlike most other insulations currently on the market, these can be plastered directly, something which is not true of cellular-glass blocks. Insulating lath can be plastered, of course, but it is not self-supporting, nor is it incombustible.

John D. Maultsby & Company, architects for the $3 million, nine-story Brotherhood Building in Kansas City, Kansas, are reported to have cut the initial cost of the heating equipment 20 percent and lowered refrigration capacity from 750 tons to 600 tons by using double glazing (outer lights are of heat-absorbing plate); they also anticipate comparable savings in operation.

In general, however, architects are still doing little about double glazing. The original cost automatically scares them off before they have taken a good second look at the possible savings in heating plant and in fuel. One of the largest veterans' hospitals in the East is being built with standard, old-fashioned single glazing and with cavity wall construction. Undoubtedly the heating plant is far larger than it need be, if previous experience is any guide. The annual loss in heating dollars alone would make angels weep, if they cared at all about human waste and human inefficiency.

Of course, as L. V. Teesdale of the Forest Products Laboratory, U.S. Department of Agriculture, has pointed out, "It is hardly practical to add insulation or double glazing to most large structures after the buildings have been completed. Such features should be incorporated in the plans as part of the design." Consequently, all existing buildings that are uninsulated must remain so, and their owners take their annual loss in wasted fuel with a smile.

But in new buildings double glazing is likely to prove a sound investment. Teesdale writes, in connection with the new Forest Products Laboratory building in Wisconsin: "Double glazing . . . in Madison, where we have about 7400 degree days, could bring about a fuel saving of as much as 88,800 Btu per square foot. With coal costing $10 per ton, and allowing eight pounds of steam per pound of coal, the fuel saving would be about 5.55 cents per square foot of glass surface. In our buildings we have about 20,000 square feet of glass. If double glazed, the estimated reduction in fuel would be 111 tons of coal per year. Double glazing now would not be justified on the basis of fuel savings but double glazing would have been justified at the time the building was under construction."

These are persuasive figures indeed, particularly since they do not take into account either the further savings in ini-

tial investment resulting from a smaller heating plant, or the somewhat smaller savings caused by insulating the nonglass areas of the walls. If these figures were added, the savings would in all probability be extremely handsome. (*See Chart I for a theoretical example.*)

It is not possible to make an entirely valid and pragmatic judgment of the value of insulation in nonresidential walls at this point, of course. For one thing, it has not actually been proved that insulation and double glazing in the typical nonresidential structure can be made economical. All that has been shown is that such construction has proved economical in certain hospitals. Practical proof must be forthcoming from practical men who can bring their experience and knowledge to the problem and analyze the various costs versus savings so as to come out with an answer that is essentially right. At present the indication is that their calculations will show that insulation and double glazing in many types of nonresidential—and apartment house—structures are good investments.

For example, nearly four years ago James Govan, a Toronto architect who has built many insulated buildings, particularly hospitals, in the Canadian provinces, published the following unqualified statement in *Canadian Hospital* (June 1948):

CHART I: EXAMPLE OF POSSIBLE ECONOMIES RESULTING FROM INSULATING WALLS IN NONRESIDENTIAL STRUCTURES[1]

situation

Imagine a test building 100 feet square and 25 feet high, or one containing 10,000 square feet of wall area. Fifty percent of this area is fenestrated and the remainder consists of brick and cinder-block construction. Location: New York City vicinity. As the roof and door openings are identical in buildings with insulated or uninsulated walls, they may be considered as cancellable and therefore ignored; floors also not to be considered.

analysis of heat loss

UNINSULATED WALLS

A. 50% of wall single glazing. 5000 sq. ft. x 1.13 (U)	5650
B. 50% of wall 4" common brick, 8" cinder block, ½" plaster on block. 5000 sq. ft. x 0.33 (U)	1650
TOTAL HEAT LOSS, Btu/hr./deg. diff.	7300

INSULATED WALLS

C. 50% of wall double glazing, ¾" air space[2] 5000 sq. ft. x 0.54 (U)	2700
D. 50% like 1-B (*above*) plus insulation with heat transmission coefficient of 0.15. 5000 sq. ft. x 0.10 (U)	500
TOTAL HEAT LOSS, Btu/hr./deg. diff.	3200

NET SAVINGS IN REDUCED HEAT LOSS
7300-3200 4100

savings in fuel costs per year

Annual degree days of heating in the New York City area	5300
Calculated efficiency of oil burner for steam heat	75%
Fuel consumed, if U is 1.00/sq. ft./yr. in N.Y.C.[3]	1.5 gal.

TOTAL GALLONS TO REPLACE HEAT LOSS IN UNINSULATED WALLS

A. Fuel for 5000 sq. ft. of glass 5000 x 1.5 = 7500 x 1.13	8475 g.p.y.
B. Fuel for 5000 sq. ft. of wall 5000 x 1.5 = 7500 x 0.33	2500 g.p.y.
TOTAL	10,975 g.p.y.

TOTAL GALLONS TO REPLACE HEAT LOSS IN INSULATED WALLS

C. Fuel for 5000 sq. ft. of double glazing 5000 x 1.5 = 7500 x 0.54	4050 g.p.y.
D. Fuel for 5000 sq. ft. of wall 5000 x 1.5 = 7500 x 0.10	750 g.p.y.
TOTAL	4800 g.p.y.

NET SAVINGS OF INSULATED OVER UNINSULATED WALL IN G.P.Y.
10,975 — 4800 = 6175 gallons. At 0.125¢ per gallon, this means a cash saving in fuel costs per year of $775.

estimated savings in reduced size of heating plant and radiation area[4]

Heat loss for OF — 70F temperature differential, uninsulated building: 7300 x 70 = 511,000 Btu/hr. At 75% burner efficiency	640,000 Btu/hr.
Heat loss for OF—70F temperature differential, insulated building: 3200 x 70 = 224,000 Btu/hr. At 75% burner efficiency	280,000 Btu/hr.
DIFFERENCE	360,000 Btu/hr.

NET SAVINGS IN DOLLARS IF PLANT COST IS $8 PER POUND PER HOUR CAPACITY[5]
$8 x (360,000) / 1000 = $2900 (approximate)

estimated cost of insulating and double glazing[6]

Double glazing: At $2.25 extra per sq. ft. 5000 x 2.25	$11,250
Wall insulation: At $0.20 extra per sq. ft. 5000 x 0.20	1,000
TOTAL EXTRA COST	$12,250

summary

Total Extra Cost	$12,250
Savings on Steam Plant and Radiation	2,900
DIFFERENCE	$9,350

NECESSARY PERIOD TO AMORTIZE EXTRA COST OF WALL INSULATION, DOUBLE GLAZING
$9,350 / $775 (Fuel savings per year) ..... 12 yrs.

[1] *This example does not take into account the further savings which would result if the building were also air-cooled.*

[2] *It should be noted that at the present time there is no standard double-glazed window unit with a ¾" air space between the sheets of glass. The maximum width of air space commercially available is ½".*

[3] *Based on data in "Insulation: Where and How Much" (Housing and Home Finance Agency, 1950).*

[4] *Does not take into account necessary added plant to take care of heat loss through roof, doors, floor, etc.*

[5] *"Chemical Engineer's Handbook," John H. Perry (McGraw-Hill Book Co., Inc., 1950).*

[6] *Based on data developed by Charles Neergaard ("The Modern Hospital," March and April, 1950).*

"Canadian owners and architects should know that there is absolutely no need for increased capital expenditure to provide increased thermal capacity because its cost can and should come out of the reduction in expenditure of the heating plant provided."

Since some of the most successful insulated hospitals are in Canada and have been a part of Govan's experience, it should be taken for granted that there is a wealth of supporting facts behind this quotation. And further support is brought to his position by the opinion of Engineer C. E. Daniel, who was consulting engineer to Hoge and Shaffer in the preparation of the U.S. Public Health Service's report, "Functional Basis of Hospital Planning." According to Charles Neergaard, Daniel was personally responsible for the following quotation from that report.

The statement is preceded by an engineering generalization that one square foot of radiation is required for every 80 cubic feet of the building when it is uninsulated. It then goes on:

"When the walls are well insulated, the size of the heating boilers and radiators can be reduced approximately 25 percent; if, in addition, the windows are effectively double glazed, 50 percent, or approximately one square foot of radiation to 160 cubic feet of space."

Without question, such a reduction in heating plant size will, in many if not all instances, essentially cover the costs of the insulation.

Now no generalization ever proves true in a specific case. That is probably why it is called a generalization. Nevertheless, the above quotations should indicate to architects, to engineers, and to clients of both, that there is literally no logic or sense in continuing to assume *automatically* that the insulation of nonresidential buildings (including double glazing) is uneconomical, will add seriously to the capital investment, and will not drastically reduce operating costs. On the evidence, such insulation should long have been one of the standard and basic elements in the planning of modern nonresidential buildings.

Meanwhile, there are other aspects of the problem that deserve study. For example, what are the basic elements that make insulation in the home a good investment? Can they not apply to the nonresidential structure as well?

Ideally, housing construction economics in the case of individual homes with four sides exposed to the weather, or with two, in the row house, or three, in the semi-detached, are based on a combination of a program of low first cost, high operating efficiencies, and minimal maintenance costs. Large glass areas in private homes are, when well planned, designed to take fullest advantage of solar heat during the cold winter days. They can be effectively curtained against cold night air or during sunless days, if desirable. Removable storm windows for residences, too, are generally inexpensive, and provide excellent insulating efficiency at the window openings for very little money. Insulating materials for walls, attics, and floors that need them are cheap in general and very efficient. It is far from uncommon to find that the cost of insulation and storm windows in residences are paid for by the savings in the cost of a smaller heating plant and decreased radiating area or smaller warm-air ducts. If any part of the insulating bill is still outstanding, it is in most cases amortized in a very few years by the savings in fuel costs resulting from using a smaller furnace. This is the usual experience in the modern residential field, as any architect practicing in it knows. Problems in moisture condensation and humidity control are being handled with increasing ease by means of efficient vapor barriers and simply designed ventilating systems, often natural rather than powered.

In other words, insulation has arrived for the residence. True, storm windows are often used instead of prefabricated double glazing, but the result is the same, and is achieved at considerably lower cost.

The situation in commercial, industrial, and institutional structures, on the other hand, is seemingly of a very different nature. In the first place, it is true that one generally cannot pay the kind of attention to the solar orientation of a nonresidential structure as you can to the private home. A city block is an immovable object. Non-urban structures in this general class, whether resort hotels, decentralized factories and hospitals, or some other type of free structure, can be designed to take the fullest advantage of site and sun. In the city, however, this is practically impossible. A favorable location sun-wise is fortuitous, not planned.

But that is just about the only important limitation to the control of internal climate that the urban building suffers from. Otherwise insulation, combined with modern heating and air-conditioning techniques, should be able to provide a highly efficient and comfortable structure that will please its owner by the low costs of operation and its tenants by the unusual elements of comfort, winter and summer, that it provides.

And yet most of these building are not insulated. Some of the reasons given for not insulating the walls of buildings in the nonresidential categories are novel in the extreme. During the researches on this subject, the following were mentioned:

1. It doesn't make any difference; the tenants pay for the heat anyhow. (This one was mentioned before, but it deserves repetition.)

2. It would be too difficult to explain the higher cost for double glazing, etc., to the client. (In this case the possible savings in the heating plant were not admitted, even though they were mentioned several times.)

3. The office building (and others in similar categories) *is occupied only eight hours a day, so why insulate for nighttime? The sun will take care of the heat loss during the day.* (On the north side, too? . . . And also, one cannot design any building to be occupied by paying tenants on the assumption that the temperature can be permitted to fall below the comfort level during the night. If the owner can control the occupants and knows they will not be in the building after dark, the point may have some validity—except that it still is no answer to the problem of heat loss!)

4. (From an engineer's letter)—"*I cannot recall a single instance in 30 years of engineering that placed the decision for or against insulating a building into my lap.*" (In other words, "The client never suggested it."

5. Rooms in office buildings and many other kinds of nonresidential structures are occupied by large numbers of people during the day. Their bodies throw off enough heat to compensate for the heat loss through the glass and wall areas. (The theory that nonresidential structures do not need insulation in the walls or double glazing in the windows because they are full of people, was the most novel one encountered during the researches. On this theory, if there were enough people in the building, you could pipe off the surplus Btu radiated from their bodies and operate the electric light system with them.)

6. Any heat saved by double glazing will be dribbled away by tenant wastefulness. They will leave windows open and forget to shut outside doors. (If there is any logic to this, it is not visible on the surface. In many buildings using double glazing the windows are fixed and cannot be opened—one way of eliminating the problem of waste. In others they can be opened, but will be so only when the rooms are *too warm* because there are too many people in them or for some other reason. In any event, there is not likely to be a noticeable effect on fuel consumption.)

So—why no insulation or double glazing in the walls of most nonresidential buildings? The only reason that makes any sense today is the unfortunately uncomplimentary one of—technological lag.

Among the 23 Gold Seal Winners were:

architects and consulting engineers

John D. Perry—Art Gallery
Delbert K. Perry, Architect
New Britain, Conn.

Charles S. Telchin—Jewelry and Silver Shop
Telchin & Campanella
New York, N. Y.

Herbert A. Dallus—Bank Lighting
Dallus & Thomas, Engineers
San Francisco, Calif.

L. Ralph Bush—Public Library
Atlanta, Ga.

electrical distributors' lighting specialists

Harry F. Gill—Field House Lighting
Graybar Electric Co.
Newark, N. J.

W. E. Watson—Furniture Store
Graybar Electric Co.
Detroit, Mich.

George E. Pieper—Machine Shop
with Donald W. Somes, William J. Matters
Metals and Controls Corp.
Attleboro, Mass.

Thomas J. Fifer—Street Lighting
Westinghouse Electric Supply Co.
Omaha, Neb.

J. E. Donaldson—Office Lighting
General Electric Supply Corp.
Pittsburgh, Pa.

LIGHTING COMPETITION

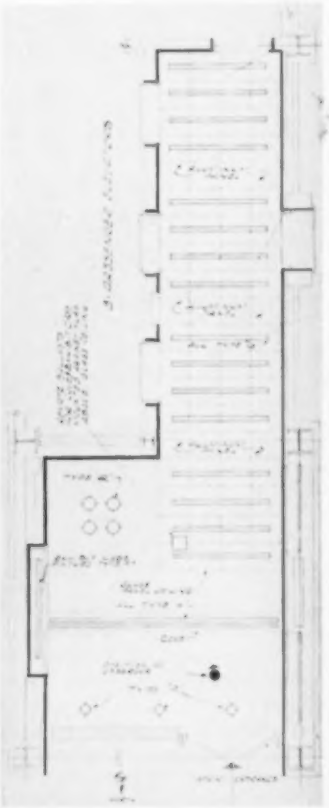
Sponsored by the 4th International Lighting Exposition and Conference, the 1952 Merit Award Competition had as its objective: to help mobilize lighting knowledge to advance America's welfare. The competition was open to architects and consulting engineers, electrical contractors, utility lighting and power representatives, electrical distributor's specialists and salesmen, and owners and users of industrial and commercial lighting. To be eligible for an Award, the lighting equipment used in an installation had to be the product of one or more members of the National Electrical Manufacturers Association, sponsors of the conference. All installations were made between July 1, 1950 and December 31, 1951. From the 387 solutions submitted, Gold Seal Merit Awards and Merit Award Certificates were announced at the exposition which was staged in Cleveland this month.

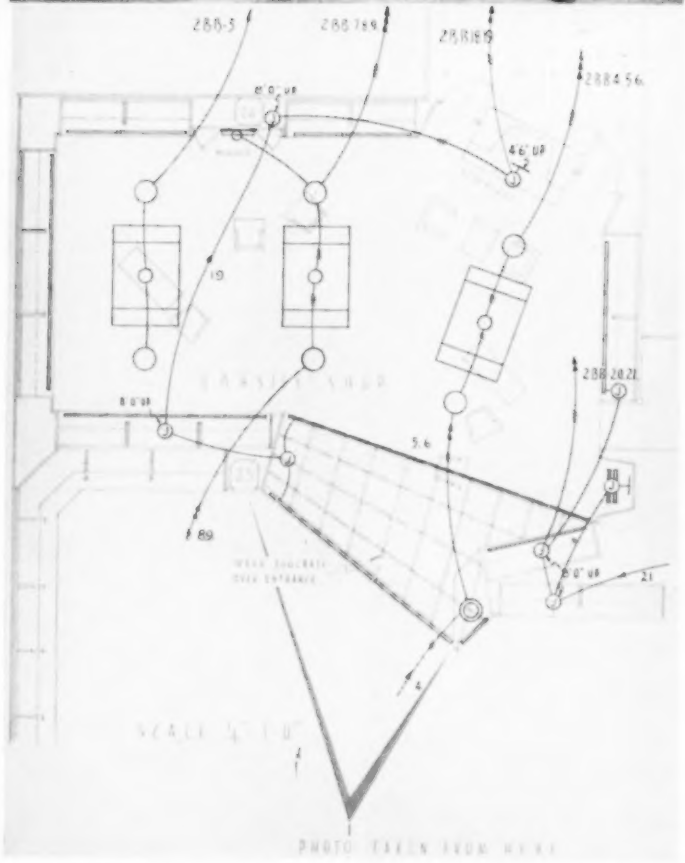
Among the Merit Award Certificate winners was an OFFICE BUILDING LOBBY submitted by Leonard H. Gussow, of Harley, Ellington & Day, Detroit architects and engineers *(illustrations this page)*. A deep beam crossing the lobby directly in front of the elevators created a special problem by limiting the ceiling height in the entire area. It was decided that a luminous ceiling with a pattern determined in part by the low beams would offer an acceptable solution. The remaining areas were illuminated by a cove facing the entrance and by downlights.

The lighting solution for a MEN'S CLOTHING SHOP, submitted by S. J. Brochstein, of Brochsteins, Inc., Houston architects and engineers, was also a Merit

Illumination in footcandles for OFFICE BUILDING LOBBY: front lobby, 36" above floor, 12; directly under Type "Q" fixture, 36" above floor, 120; under luminous ceiling, 40.

Brightness in footlamberts: ceiling, under cove, 3.3—4.7; Type "Q" fixture, 155; luminous ceiling, front, 80; luminous ceiling, rear, 25; wall directly above chair, 11; floor, general, 11. *(Readings taken from position marked on floor plan.)*



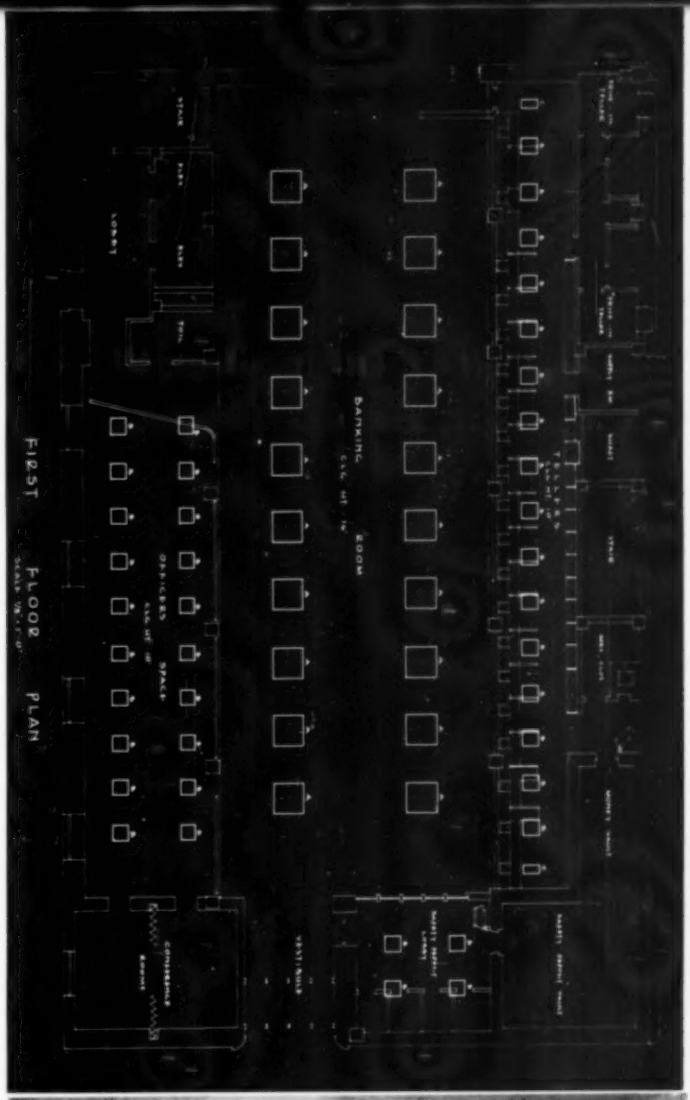


Illumination in footcandles for MEN'S CLOTHING SHOP: general lighting, 33; wall case, 84; mirror alcove, 51; manikin, 110.

Brightness in footlamberts: skylight fixture, viewed at 78°, 150; recessed incandescent, viewed at 78°, 147; ceiling, max. 20, min. 5; walls, 4.5; manikin at shoulder, 76.

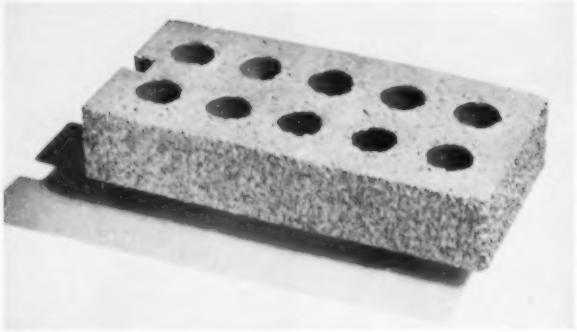
Award Certificate winner *(illustrations this page)*. The approximate area of this shop is 700 sq. ft.; the main ceiling height is 12′ and the height under the eggcrate is reduced to 8′. Fluorescent-skylight fixtures, incandescent-recessed units, adjustable spots, and fluorescent lamps over the entrance were all integrated in the design.

A solution for a BANKING ROOM, submitted by Thomas E. Blakely, of Newcomb & Boyd, Atlanta architects and engineers, also won a Merit Award Certificate *(acrosspage)*. All fixtures have a hinged-eggcrate louver providing 45° x 45° shielding. Each fixture contains T-12 lamps of "standard warm-white" color.



Illumination in footcandles for BANKING ROOM: floor, 38; officer's desk, 46; teller's counter, 42; check desk tops, 46; on mural, 8.

Brightness in footlamberts: fixture, 285; ceiling, 6.6; wall, 7.3; floor, 9.7; mural, 4.6.



the SCR brick

A recent HHFA survey has shown that more than 90 percent of the single-family homes constructed in 1950 had only one-story load-bearing exterior walls and that most of those constructed with masonry were built with 8" thick walls. As all recognized national building codes allow 6" masonry walls for one-story dwellings, it is evident that those of 8" are stronger than necessary. To help reduce the cost of masonry construction and at the same time meet the requirements of current housing trends, the Structural Clay Products Research Foundation has developed the 6" thick SCR brick to replace 8" wall construction in homes of one and one-and-one-half stories.

Appearing the same as standard Norman brick, the new unit's basic dimensions are 2 1/6" x 11½" x 5½" *(above)*. Designed to be laid without backup materials and in common bond with full bed and head mortar joints of ½" thickness, the unit will turn corners efficiently and will build jambs and openings without special additional units *(acrosspage)*. Modularly it is laid up three courses to 8" of wall height. Vertically cored to lighten its weight and to facilitate proper laying and handling, the brick weighs only 8 lbs. when made of usual clays and shales. The 1⅜" hole size and arrangement were designed to duplicate the grip and finger spread now used by a mason in laying standard brick. A

air and temperature control

Residential Air Diffuser: small, dome-shaped air diffuser for forced warm-air systems; consists of collar or neck and inner and outer deflector, both of which divert downward and outward, draftless air from ceiling. Unit provides thorough heat distribution, with room temperature variations of no more than 1½ degrees; shallow silhouette makes it no more conspicuous than light fixture. W. B. Connor Engineering Corp., Shelton Rock Lane, Danbury, Conn.

Down Discharge Coolers: five new evaporative air coolers added to 1952 line, ranging from 3700 cfm to 6600 cfm capacity. Especially constructed to allow cool air discharge through bottom of coolers, permitting simpler roof installations. Units may be installed without exterior ductwork, thus eliminating at least one elbow and one duct joint in each installation. Essick Mfg. Co., 1950 Santa Fe Ave., Los Angeles 21, Calif.

PAC Gas Unit Central Heater: compact, all-purpose automatic heater, with 100,000 Btu rating, approved by A.G.A. as central heating gas appliance or as unit heater, in either case with or without use of ducts. Flanges on both ends of cabinet can be fitted with louver panels or used to connect ducts; four sockets on both top and bottom provide for suspended or base mounting. All controls enclosed within cabinet. Reznor Mfg. Co., Mercer, Pa.

Package Attic Fan: vertical discharge unit for home ventilation and cooling, measures 3 sq. ft. and projects only 17½" above attic floor. Improved ceiling shutter opens and closes automatically as fan is turned on or off. Trim and shutters finished in light ivory, baked enamel. Available in 4750 and 5800 cfm capacities. Robbins & Meyer, Inc., 387 S. Front St., Memphis, Tenn.

Posit-Aire Industrial Ventilator: low silhouette, roof-type ventilator moves maximum volume of air in range of 5000 to 45,000 cfm. Automatic closing of louvers when unit is not operating prevents back-draft, entrance of outside air, rain, or snow. Interiors and mechanism can be supplied with protective coatings for moisture and corrosion protection. Tripar Products, Inc., 14641 W. Eleven Mile Rd., Royal Oak, Mich.

doors and windows

Riviera: overhead wood door for residential garage, constructed with five narrow, horizontal sections, instead of the customary four, to produce effect of length and lowness, in keeping with general trend toward long, low structural lines of contemporary residential architecture. Complete range of sizes for single and double openings. Preservative treatment protects wood against termites, fungus, dry-rot, and moisture. Crawford Door Co., 401 St. Jean, Detroit 14, Mich.

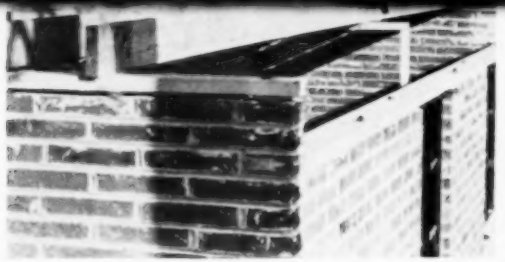
Marmet Louvre Block: small, square, aluminum ventilating unit, designed to replace 8" x 8" glass block in wall panel in kitchen, bathroom, or any small space not requiring full ventilation. Self-contained unit is glazed and screened, with louver on outer side. Marmet Corp., Wausau, Wis.

Hurlinge Hinge: newly designed hinge requires no recess in door; outer leaf of hinge screws directly to frame, while inner and smaller leaf is screwed to door; when door is closed, smaller leaf fits into larger one. Unit is self-aligning and self-gapping. Available in standard sizes of 2", 3", and 4", in variety of metals—steel, brass plate, bronze plate, etc. No-Mortise Hinge Corp., Bound Brook, N. J.

electrical equipment, lighting

AA-51 Series Explosion-Proof Lighting Fixture: new design features allow for greater safety and lighting efficiency; use of entire lower edge of hood as continuous louver, plus porous metal interiors, provides even heat distribution and cooler operation. Wire-free canopy construction permits instant removal of entire fixture. Available in sizes ranging from 60w to 500w. Appleton Electric Co., 1701-59 Wellington Ave., Chicago 13, Ill.

2450 Downlight: inexpensive recessed, incandescent unit, requiring only 5½" above



Detail of roof framing on pilot house built with SCR brick (*above*) shows method of staggering anchor bolts on the plate.

$\frac{3}{4}$" slot at one end assists the installation of metal windows.

Two-inch square wood furring is recommended to provide a barrier against moisture penetration, permit easy installation of electrical facilities, and to permit the use of blanket insulation as desired. With this furring, the interior side can be finished to provide any desired U-factor. When 1" roll insulation, $\frac{1}{2}$" insulating board, and $\frac{1}{2}$" vermiculite plaster are specified, a U of 0.12 obtains. To simplify and further reduce furring costs, improved, galvanized clips can be secured through manufacturers of the SCR brick.

Time and motion studies and actual mason trials have shown that under normal conditions a mason could build 60 to 100 percent more wall area per day with this brick (*above*). It has also been demonstrated that he can easily lay 450 units per day—the equivalent of 100 sq. ft. of wall per day per mason. As the SCR brick will undoubtedly stimulate masonry house construction, the product has bricklayer union approval and is now available in every major building market. Structural details can be obtained from the Structural Clay Products Institute, 1520 18 St. N.W., Washington 6, D. C.

ceiling and 10"-sq. opening, provides low brightness, diffused illumination; suitable for corridors, lobbies, and similar locations in hospitals, schools, hotels, and private dwellings. Glass-lens panel is mounted in metal frame that hinges open for easy maintenance. Maximum lamp size is 150 w. Pittsburgh Reflector Co., 421 Oliver Bldg., Pittsburgh 22, Pa.

Delayed-Action Electric Light Switch: equipped with spring-loaded diaphragm that prolongs light for full minute after pressing down switch; particularly useful for porch lights, enabling person to walk to garage, for example, or in bedrooms for children or aged persons. Housed in standard size plastic case, is easily installed in existing wall outlet or in new construction. Capacity of 10 amp. at 125v; 5 amp. at 250v. Electric Deodorizer Corp., 9993 Broadstreet, Detroit 4, Mich.

finishers and protectors

Cosmolite Wax: anti-slip wax, containing yellow carnauba wax with colloidal silica as anti-slip ingredient, said to have long-wearing and scuff-resistant qualities. Does not require frequent baffing, is also water resistant; recommended for hospital floors and other public areas. Huntington Laboratories, Inc., Huntington, Ind.

NO-ROT: reinforcing fabric, composed of fireproof Fiberglas threads, for use with roof coating in repairing roofs, stopping roof leaks, and waterproofing areas around flashings, fire walls, chimneys, and skylights. Fabric is extremely light in weight, with great tensile strength to withstand stress and strain, and is reputed to last life of roof itself. Monroe Co., Inc., 10703 Quebec Ave., Cleveland 6, Ohio.

insulation (thermal, acoustic)

Minatone: incombustible, perforated, acoustical tile, made from mineral wool and binding agents; may be installed by cement application to plaster, gypsum lath or board, or it can be suspended from ceiling by usual methods. Tile comes in 12" x 12" x $\frac{5}{8}$" size, factory painted with two coats of white latex paint; can be repainted without noticeable loss of sound efficiency. Armstrong Cork Co., Lancaster, Pa.

sanitation, water supply, drainage

Booster Pumps: new line of smaller units, specifically designed to meet need for more compact, space-saving units in residential and industrial hot water systems. Despite reduced size, lighter units are claimed to deliver greater number of gal. per min. at lower cost in electric power than their predecessors. Boosters are powered by 1/12-h.p. motors. Bell & Gossett Co., Morton Grove, Ill.

specialized equipment

MI-6441 Speaker: small speaker, serving as re-entrant speaker in low-powered voice-paging system or as high-efficiency microphone in talk-back system, designed to replace cone-type speakers in intercom systems where maximum acoustical output is required from nominally powered amplifiers. Ruggedly constructed, completely weatherproofed; suitable for use in bus terminals, warehouses, garages, coal yards, and other industrial areas. Radio Corp. of America, Camden, N. J.

surfacing materials

Ceratile: line of decorative wall clay tile treated by frostproofing process, allowing tile to be used for exterior, as well as interior, application in freezing climates. Available in 34 stock patterns; unlimited custom designs can also be made to order. Cambridge Tile Mfg. Co., P. O. Box 71, Cincinnatti 15, Ohio.

Thriftwood: low-priced, light density, $\frac{1}{4}$" hardboard panel made of processed fir fiber, designed for general interior use such as wallboard, underlayment, built-ins, and cabinet work. Easily sawed, nailed, and planed. Available in panel sizes of 4' x 4', 4' x 6', and 4' x 8'. Forest Fiber Products Co., 316-4 Pacific Bldg., Portland 4, Ore.

pa MANUFACTURERS' LITERATURE

★ *Editors' Note: Items starred are particularly noteworthy, due to immediate and widespread interest in their contents, to the conciseness and clarity with which information is presented, to announcement of a new, important product, or to some other factor which makes them especially valuable.*

air and temperature control

★ **1-168. Unit Ventilator Catalog** (3500), 24-p. bulletin describing draft-free system of heating and ventilating classrooms that meets all basic optimum requirements. Problem and solution, operating data, system components, specifications, application, typical installations, photos, drawings. American Air Filter Co., Inc., Herman Nelson Div., Moline, Ill.

1-169. Remotaire, AIA 30-F-1 (257), 24-p. engineering manual on remote-type room air conditioner for multiple installation, providing both winter heating and summer cooling; designed for office buildings, apartment houses, hotels, hospitals, residences. Unit connects to centrally located water heating and cooling plants, and offers individual temperature control in every room. Advantages, types, features, cooling and heating selection charts, specifications. American Radiator & Standard Sanitary Corp., Bessemer Bldg., Pittsburgh 30, Pa.

1-170. Hev-E-Oil Burners (AD-102), 8-p. bulletin. Full line of oil burners for commercial and industrial use, utilizing heavier grades of fuel oil, up to low-cost No. 5, as well as light oils. Sizes and capacities, advantages, components, specifications. Cleaver-Brooks Co., Hev-E-Oil Burner Div., 326 E. Keefe Ave., Milwaukee 12, Wis.

1-171. Kno-Draft Adjustable Air Diffusers (K-20-A), revised, 32-p. catalog displaying line of air diffusers and accessories. Application, performance charts, technical and installation data, general duct design, balancing procedures, photos. W. B. Connor Engineering Corp., Shelter Rock Lane, Danbury, Conn.

1-172. Invisible Warmth, AIA 30-C-14 (594), 28-p. booklet describing 6 types of convectors for homes, stores, offices, schools, and institutions. Dimensions and connection data, ratings for steam and hot water use, typical installation photos. National Radiator Co., 221 Central Ave., Johnstown, Pa.

construction

3-143. How and Where to Specify Stainless Steel in Architecture, AIA 15-H-1, 20-p. booklet listing almost 300 different construction applications of stainless steel, ranging from air-conditioning ducts to windows. Available forms and finishes, specification guide, contents table. American Iron and Steel Institute, 350 Fifth Ave., New York, N.Y.

3-144. Movable Metal Walls (52), 48-p. catalog. Solution of space problems in commercial, industrial, and institutional buildings by use of all-steel, or combined steel and glass, panel partitions. Types, construction features, details, hardware, glazing, and wiring data, photos. Mills Co., 965 Wayside Rd., Cleveland 10, Ohio.

doors and windows

4-169. Quality Aluminum Windows and Screens, 12-p. bulletin illustrating residential, stock casements and stock projected windows, available with screen mesh and frames. Sizes, full-size details, specifications, advantages. A.B.C. Steel Equipment Co., Inc., 215 E. 22 St., New York 10, N. Y.

4-170. Modern Window Shading, AIA 35-P-5 (A-1429), 28-p. booklet. Advantages of completely washable window shade made of fine cotton fabric impregnated and coated with vinyl plastic. Types, uses, methods of hanging, specifications, actual sample, color selection, photos, drawings. E. I. du Pont de Nemours & Co., Inc., Fabrics Div., Newburgh, N.Y.

4-171. The Smartest Thing in Doors, AIA 16M (5098), 8-p. booklet on accordion-type folding doors with rustproof metal frames covered by plastic-coated fabric; may also be used as movable wall to form smaller rooms in large area. Uses, construction, details, sizes. Holcomb & Hoke Mfg. Co., Inc., 1545 Van Buren St., Indianapolis, Ind.

4-172. Hager Hinges, 8-p. booklet showing representative group of complete line of hinges for any door and any jamb, in all standard sizes and finishes. Types, uses, sizes, weights, details. C. Hager & Sons Hinge Mfg. Co., 2457 DeKalb St., St. Louis, Mo.

★ **4-173. How to Make the Most of Daylighting,** AIA 10-F. Spiral-binder contains folders and reprints of articles on fenestration of classrooms with light-directing prisms and light-diffusing glass block. Computation of illumination distribution, simple daylighting survey technique, glass block job data, application data, charts, drawings, typical installation photos, performance data. Pittsburgh Corning Corp., 307 Fourth Ave., Pittsburgh 22, Pa.

4-174. Steel Windows and Doors (D-140), 28-p. catalog. Double-hung and casement windows; swing and sliding closet doors for residential installations. Stock sizes, details, types of surrounds and casings, specifications, hardware information; also brief data on basement and utility windows. Truscon Steel Co., 1315 Albert St., Youngstown, Ohio.

4-175. Weldwood Doors and Partition Panels, AIA 19-e-1, 12-p. catalog offering various types of flush doors (including Kaylo-cored fire doors) and partition panels, available in choice of fine hardwood veneer finishes. Sizes, thicknesses, weights, hardware and installation specifications, photos, drawings. U.S. Plywood Corp., 55 W. 44 St., New York 18, N.Y.

electrical equipment, lighting

5-109. Bulldog Vacu-Break Master Safety Switch, AIA 31-D-4 (514), 4-p. folder. Description of safety switch line, reduced from several hundred switches to only 37 types which fill all Type A, C, or D requirements. Operation features, new catalog numbers and old numbers they replace, cross reference. Bulldog Electric Products Co., 7610 Campau St., Detroit, Mich.

Two bulletins, covering "LS" series of laboratory and switchboard connectors, and "GB" series of battery connectors, respectively. General information, applications, photos, drawings. Cannon Electric Co., 3209 Humboldt St., Los Angeles 31, Calif.:

5-110. Laboratory and Switchboard Connector Series (LS5)

5-111. Battery Connector Series (GB4)

★ **5-112. Stage Lighting Artistry,** AIA 31-F-25, 36-p. booklet. Detailed information on flexible, stage-lighting control boards designed especially for schools, churches, and drama groups. Basic requirements, equipment features, specifications, circuit layout, diagrams, photos, drawings. Ariel Davis Mfg. Co., Provo, Utah.

★ **5-113. Highest Holophane Achievement in Controlens In-Bilt Lighting,** AIA 31F23 (F-1570), 4-p. folder describing recessed incandescent lighting unit with concave, prismatic glass lens and crystal glass reflector optically designed to cooperate with lens; unit provides uniform, low-brightness illumination, is suitable for use in stores, offices, display rooms, schools, hospitals, etc. Engineering data, application, installation, coefficients of utilization, photos, diagrams. Holophane Co., 342 Madison Ave., New York 17, N.Y.

5-114. "Plug-In" Strip, AIA 31-C-71, 12-p. bulletin covering three types of prewired, multi-outlet assemblies for constant service, grounding equipment, and for wall switch control; each assembly is provided with outlets spaced every 6" or 18", except for wall switch control, which is available with outlets every 18" only. Illustrations, brief descriptions of fittings. National Electric Products Corp., 411 Seventh Ave., Pittsburgh, Pa.

Two bulletins containing descriptions, photos, and illustrations of light dimming equipment; also, folder on compact, variable a-c voltage control for low-wattage applications. Advantages. Superior Electric Co., Bristol, Conn.:

5-115. Non-Interlocking Light Dimming Equipment (D851N)

5-116. Packaged Light Dimming Equipment (D651P)

5-117. Type 10 Powerstat (P252)

5-118. Industrial Fixtures (FC-412), 8-p. booklet. Full line of continuous-row, industrial fluorescent fixtures, available in 24 different models. Selection chart, mounting methods, illustrations. Sylvania Electric Products, Inc., 1740 Broadway, New York 19, N.Y.

finishers and protectors

6-58. Corrosite, 8-p. bulletin on uses of tough, corrosion-resistant plastic paint for protection of metals, concrete, brick, stone, plaster, and asbestos board. Characteristics, application methods, ordering directions. Corrosite Corp., 405 Lexington Ave., New York, N.Y.

Two booklets, one describing paints for exteriors and interiors of commercial and residential buildings; the other contains painting specification and information on finishing of all types of surfaces in residential, institutional, commercial, and industrial fields. Devoe & Raynolds Co., Inc., 787 First Ave., New York 17, N.Y.:

6-59. There is a Devoe Paint for Every Surface

6-60. Painting Specifications, AIA 25 (E-70)

6-61. Flexseal, AIA 7-B-2, 4-p. folder. Advantages of silicone-based water repellent for application on all masonry surfaces, cement-based paints and similar compositions; is said to eliminate efflorescence and other water-soluble or water-carried stains. Technical data, method of application. Flexrock Co., 3609 Filbert, Philadelphia 4, Pa.

6-62. Seal-Kote (L-5201), 4-p. bulletin on asphalt and asbestos roof coating that penetrates and seals surfaces to prevent roofing from drying out, cracking, and leaking; also description of plastic roof cement for use in repairing cracks, blisters, and holes. Advantages, photos. Paramount Industrial Products Co., University Center Station, Cleveland 6, Ohio.

Folder describing method of controlling penetration of water through masonry walls by treatment of surfaces with three compound materials, used individually or collectively, to stop leaks, seal walls, and provide decorative finish. Also, folder containing index of products for protection and maintenance of masonry. Standard Dry Wall Products, Inc., New Eagle, Pa.:

6-63. The Thoro System (37)

6-64. The Thoro System

6-65. Masonry Painting Handbook, AIA 25-C-2 (1107). Paints for every type of stucco and masonry surface. Uses, specifications, index. Wesco Waterpaints, Inc., 343 S. Dearborn St., Chicago, Ill.

sanitation, water supply, drainage

19-235. Hot Water Boosters, 4-p. folder describing electric booster heaters, consisting essentially of brass or copper storage tank, group of copper-sheathed immersion heaters, and automatic temperature control device; designed especially to provide hot rinse water for commercial or industrial dish-washing machines. Installation data, size selection chart. Waage Electric, Inc., Kenilworth, N.J.

Three folders on automatic gas and electric water heaters with glass-surfaced steel tanks to provide against rust and corrosion. Dimensions and capacities, advantages, cutaway views, photos. A. O. Smith Corp., 3536 N. 27 St., Milwaukee 1, Wis.:

19-236. Automatic Gas Water Heaters (H-642-C)

19-237. Automatic Gas Water Heaters (H-463-E)

19-238. Automatic Electric Water Heaters (H-467-D)

specialized equipment

19-239. The Copyflex Process (A-2008), 4-p. booklet. General information on copying machine that quickly reproduces low-cost copies of practically anything drawn, written, typed, or printed; no masters, negatives, or stencils are required. Descriptions of various models, exposure and developing diagram, advantages, photos. Charles Bruning Co., Inc., 100 Reade St., New York 13, N.Y.

19-240. Mosler Burglary Resistive Chests, AIA 18-D (1703-H), 4-p. brochure. Description of all-steel chests, any size of which is available in steel-covered, reinforced concrete block; equipped with combination lock capable of 100 million changes, and relocking device for added protection against mechanical and explosive attack. Construction, photos, cutaway view. Mosler Safe Co., Hamilton, Ohio.

19-241. Library Bookstack Equipment, AIA 35-B-2, 8-p. booklet illustrating metal bookstack equipment—stacks and stack accessories, shelves, carrels, filing systems, etc. Dimensions, weights, typical stack construction, photos. Virginia Metal Products Corp., Orange, Va.

surfacing materials

19-242. Modern Industrial Washrooms (300), 20-p. booklet showing full-color applications of clay tile in industrial washrooms. Data on washroom planning and traffic flow, specifications for most practical wall and floor tile combinations. Photos. American-Olean Tile Co., Lansdale, Pa.

19-243. Textolite Monotop (CDL-50), 4-p. pamphlet displaying one-piece, seamless countertop for kitchen cabinets and sinks, made of high-pressure, decorated laminated plastic with integral curved backsplash, requiring no customary metal moldings. Construction data, photos. General Electric Co., Chemical Div., Pittsfield, Mass.

(To obtain literature, coupon must be used by 7/1/52)

(We request students to send their inquiries directly to the manufacturers.)

PROGRESSIVE ARCHITECTURE, 330 West 42nd Street, New York 36, N. Y.
I should like a copy of each piece of Manufacturers' Literature circled below.

1-168	1-169	1-170	1-171	1-172	3-143	3-144	4-169
4-170	4-171	4-172	4-173	4-174	4-175	5-109	5-110
5-111	5-112	5-113	5-114	5-115	5-116	5-117	5-118
6-58	6-59	6-60	6-61	6-62	6-63	6-64	6-65
19-235	19-236	19-237	19-238	19-239	19-240	19-241	19-242
19-243							

Name

Position

Firm

Mailing Address ☐ *Home* ☐ *Business*

City *State*

please print 5/52

My Morgan Kitchen Suits Me to a "D"

"D" is for Door . . . and for Depth . . for Detailing . . . for Design. Morgan TRI-PANEL has all 3! Here is the "Picture" door with sculptured beauty, creating ever-changing proportioned patterns of clean, sharp hi-lites and deep, soft shadows. Here is the modern touch to break the monotony of flat, plain, uninteresting surfaces. Grace the openings, make the rooms "sing" with Morgan TRI-PANELS.

This is the MORGAN **TRI-PANEL** Door of Dimension

M-1073 Interior Door

1¾" Thickness with ¼" Hip Raised Panels—2 sides

This is a Modern Morganized Kitchen

Above: M-1073 Tri-Panel and Assembly of Morgan Kitchen Cabinets

Companion to M-1073 Interior Door is Morgan M-117 Exterior Door, 1¾" thick with 1¼" hip-raised panels, 2 sides. Both available in standard sizes. Keep your Woodwork File up to date. Write for Morgan Catalogs.

MORGAN WOODWORK

MORGAN COMPANY • Oshkosh, Wisconsin

A Great Name in Woodwork for 97 Years • Doors • Entrances • Stairwork
Mantels • Corner Cases • Kitchen Cabinets • Morganwalls • Sash • Trim

"Let's stick to making money, Joe. Nobody can counterfeit a Heatilator Fireplace!"

Architects!

DESIGN YOUR FIREPLACE AROUND THE HEATILATOR® FIREPLACE UNIT BECAUSE:

1. Construction is simplified. Each unit comes complete with firebox, throat, down-draft shelf, damper and smoke dome . . . fully assembled. Only the decorative masonry is needed to complete the installation.

2. You know in advance your fireplace will work properly. The scientific design protects you against rule-of-thumb building methods . . . assures smokeless, trouble-free operation . . . reduces the need for constant on-the-job supervision.

3. It is truly "functional". It circulates heat throughout the room instead of wasting most of it up the chimney.

The Heatilator Fireplace puts no limit on mantel design or use of materials . . . gives you complete freedom of architectural expression. It's ideal for basement rooms too . . . and as a supplemental source of comfort during service interruptions or emergencies. The leader since 1927, Heatilator Fireplaces have been proved in actual use by hundreds of thousands of satisfied home owners. Specify "Heatilator" in your next home or group of homes. Heatilator, Inc., 395 E. Brighton Ave., Syracuse 5, N. Y.

*Heatilator is the reg. trademark of Heatilator, Inc.

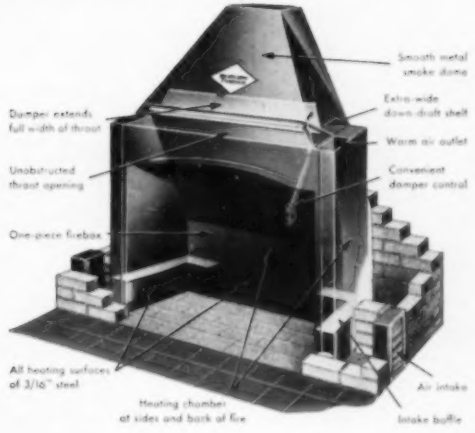
NO SMOKING - NO GRIEF - NO LIMIT TO MANTEL DESIGN!

with the

HEATILATOR

T. M. REG. U. S. PAT. OFF.

FIREPLACE



Executive Office—Philip Morris and Co., Ltd., N. Y. Architect: Kahn & Jacobs, Designer: Eugene Aronin. Figured Ribbon Mahogany Flexwood® on walls, in checkerboard design.

The magnificent beauty of GENUINE WOOD *with* NO STRUCTURAL CHANGES...

No need to place studs or rout nailing strip channels when covering surfaces with genuine wood. In specifying Flexwood, you choose luxurious natural wood in flexible sheets that can be installed *directly* over any *existing* smooth, hard, dry surface either *flat or curved.* These *direct* installations save the client from inconvenience and mean substantial economies both in time and labor costs.

SEND COUPON for Flexwood sample and booklet showing how Flexwood helped solve 17 architectural problems. Learn more about Flexwood's superb beauty, fire safety† and great versatility.

†**FLEXWOOD IS FIRE-SAFE.** *When applied to plaster walls, Flexwood meets all requirements of Federal Specification* SS-A-118a *as an incombustible wall-covering.*

flexwood

CHOICE WOOD IN FLEXIBLE SHEETS

United States Plywood Corporation
55 West 44th Street, N. Y. 18, N. Y.
In Canada: Paul Collet & Co., Ltd., Montreal

Flexwood is manufactured and marketed jointly by United States Plywood Corporation and The Mengel Company.

® Reg. U. S. Pat. Off.

←*Flat-Cut Walnut Flexwood*

United States Plywood Corporation, Dept. W-14
55 West 44th Street, New York 18, N. Y.

Please send me, without obligation, Flexwood's Case-History Book; shows how Flexwood helped solve 17 actual architectural problems.

NAME_____

ADDRESS_____

kitchen-dining areas

It's been several years now since the idea of *dining-living* has been exactly newsy but every so often it is unearthed for re-examination. Recently, an article on the women's page of a daily newspaper, severely scolded the combination of these functions and attributed bad manners among children to the loss of the separate dining room. The children who live in the houses that follow must be really incorrigible. Not only is there integration between dining and living but the division between *kitchen-dining* is sometimes minimal. Only a counter, or a counter with cabinets above divides, and in the one instance where there is a full storage wall, this too can open in part by sliding glass doors.

What does this complete openness—the throwing together of kitchen-dining spaces as well as living-dining spaces—mean in the way of interior finished architecture? It is fine in plan, it makes the daily menial tasks easier to accomplish, it increases the sense of largeness in a small house; but does it at the same time pose a difficult problem in the selection and specification of wall-surfacing materials, of floorings, and of ceiling finishes? Judging from the examples the Editors examined in preparing the following pages, the problems may be difficult, but are certainly not unsolvable. There are many ways of solving them as there are personal attitudes toward design on the part of the architect, and personal desires to be satisfied on the part of the client.

In general, there seem to be two poles-apart design approaches to the problem. One involves a distinct, visual separation brought about by using "kitchen" materials in the cooking space and "living" materials in the dining space. Tile floors in the kitchen, perhaps, with a carpeting in the dining space. More difficult maintenance, more carpet-sweeping necessary, but a carefully denoted and conscious change of atmosphere, even within a unified space, by the choice of materials. The other attitude would be a complete integration brought about by letting the same materials run through, on walls, ceilings, floors, or perhaps on just one of those planes. If tile seems suitable in the kitchen, why isn't it—in some of the colorful ceramic blends available—equally suitable in the dining area? The resilient floorings—linoleum, rubber, plastic—are certainly appropriate for both spaces, and can be used to maintain a visual unity. Wood surfaces, properly treated and finished, can be sanitary in the kitchen and warm enough for dining-space relaxation —and again can tie the two areas closer together visually. If plaster is the wall base, the architect can gain either unity or contrast, depending on which result he has decided is desirable, by his use of color, or by one of the many sanitary wall surfacing materials—from paper to plastic—now available.

One implication in these wide open kitchen-dining areas is that privacy is not the vital need. The stew is no secret and no one seems to mind if others enter into the preparation. What seems to be important is a fluid relationship of space. Unlike the four-walled chambers that dictate one formal style, one routine, these integrated interiors solve other needs. As expressed in the kitchen-dining areas that follow, the stress is on convenience and for a pattern of life that is informal and varied.

p/a interior design data

kitchen-dining areas

birch cabinet, white-enameled sliding doors

maple plywood

plastic splash-panel, cork tackboard above

extension dining table, birch frame and walnut top

red quarry tile

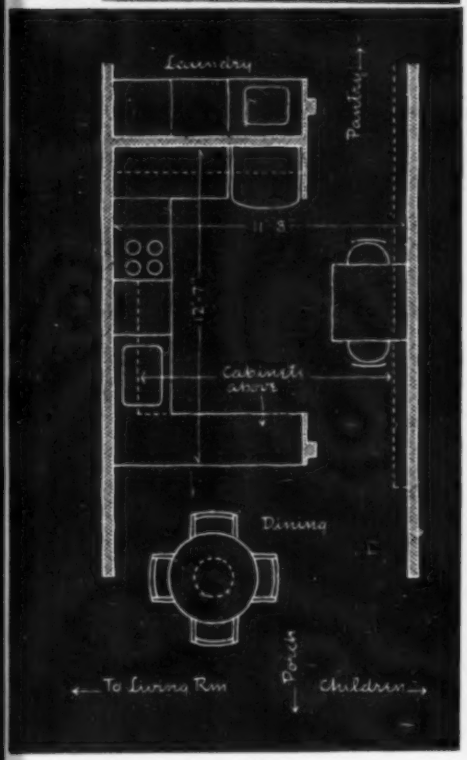
laminated-walnut and solid-birch dining chair

location | Englewood, New Jersey

architects | George Nemeny & Abraham W. Geller

architect-designed wall bracket

grocery cabinet



data

Dining Chair: #C-150/ birch frame/ laminated-walnut back and seat/ natural finish/ list: $58.50/ Jens Risom Design Inc., 668 Fifth Ave., New York 19, N. Y.

Dining Table: special/ birch frame/ walnut extension top/ natural finish/ price on request/Risom.

Kitchen Chair: #FS-3/ Chrome frame/ white-enameled aluminum seat and back/ casters/ adjustable height/ 17½" to 21": list price $28.90/ 17½" to 24": list price $30.80/ Cramer Posture Chair Co., 1205 Charlotte St., Kansas City, Mo.

Kitchen Table and Cabinets: architect-designed/ Gene's Cabinet Shop, 326 Market St., Rochelle Park, N. J.

Plywood: natural finish birch/ U. S. Plywood Co., 55 West 44 St., New York, N. Y.

Sliding Doors: "Masonite" enameled white/ Masonite Corp., 630 Fifth Ave., New York 10, N. Y.

Counter Tops and Splash Panel: "Micarta" #20706/ gray linen/ U. S. Plywood Co.

Grocery Cabinet: "Tidy" #7/ Swedish design/ natural unfinished-wood frame/ glass drawers and jars/ available in variety of shapes and sizes/ list: $18.50 to $33.50/ Seabon, 132 East 58 St., New York 22, N. Y.

Drawer Pulls: CH 01251/ Payson Mfg. Co., 2916 West Jackson Blvd., Chicago, Ill.

Lighting Fixture: special/ architect designed/ baked white-enamel reflector/ perforated, polished-brass shield/ Ledlin Lighting Co., 154 Nassau St., New York, N. Y.

Wall Bracket: special/ architect designed/ baked white enamel/ Ledlin Lighting.

Recessed Lighting: above skylights/ #2101 fluorescent strips/ Gotham Lighting Corp., 37-01 31st St., L. I. C., N. Y.

Walls: ¼" maple plywood/ natural finish/ U. S. Plywood Co.

Ceiling: plaster painted white.

Floor: quarry tile/ 9" square/ red/ Ludowici-Celadon Co., 565 Fifth Ave., New York 17, N. Y.

Dishwasher: #DWA-10/ style #Q 4561/under counter/ Westinghouse, P. O. Box 868, Pittsburgh, Pa.

Garbage Disposal: #G-4/ Westinghouse.

Range and Oven: #RD-7/ Hotpoint, Inc., 5600 West Taylor St., Chicago 44, Ill.

Sink: #S-155/ Crane Co., 836 S. Michigan Ave., Chicago 5, Ill.

Refrigerator: E G—106-4/ Hotpoint, Inc.

Finishes: Breinig Bros., 95 Harrison St., Hoboken, N. J., and Samuel Cabot Inc., 101 Park Ave., New York, N. Y.

Paints: Pratt & Lambert, Inc., 79 Tonawanda St., Buffalo 7, N. Y.

This kitchen-dining area is in a service core, between the children's wing on one side and adult quarters on the other. From this station, children are in close touch and the living room in convenient relation. When occasion requires, the dining area can be an extension to either living room or playroom.

The open, generously daylighted kitchen is designed as a U. The sequence is from storage to cooking to serving—either to dining area, breakfast table, or a screened porch directly forward. Lighting is designed to suit each function; in the porch, kitchen, adjacent pantry, and laundry, fluorescent fixtures are recessed above the skylights for general diffused lighting; and the special architect-designed lamps are handsomely right for each dining table. Walls are maple, ceiling is white plaster, wood beams and columns are stained brown-black, and the floor is red quarry tile. *Photo: Ezra Stoller*

p/a interior design data

kitchen-dining areas

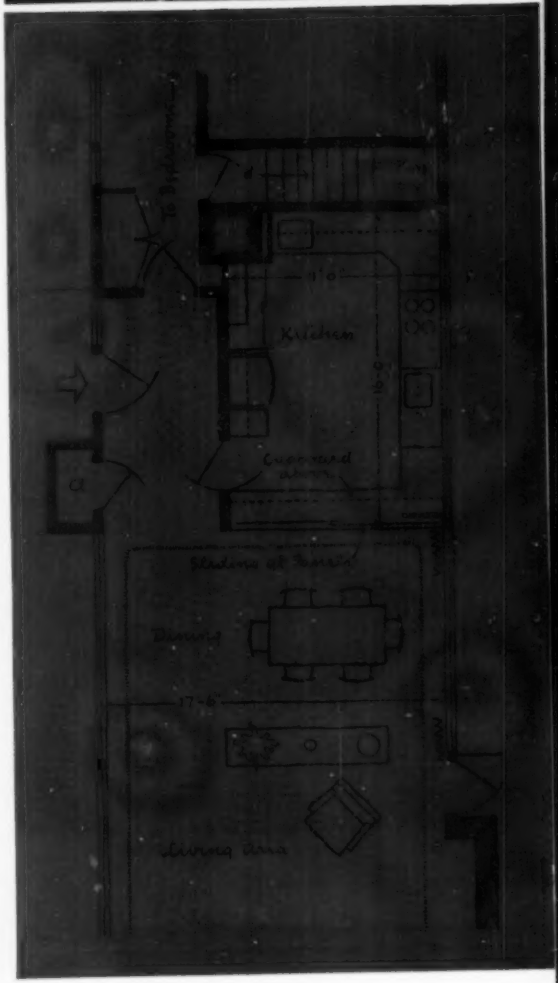
location | North Kingston, Rhode Island

architect | Conrad E. Green

gray rubber tile

Varied styles of service are made possible by the versatile storage wall between this kitchen an ddining area. For formal dining, it shuts out the kitchen entirely; when the wide counter is used as breakfast table, the sliding-glass doors open for self-service and for the view. Storage wall and the cabinet between dining and living room, are both carefully compartmented for china, glassware, linen, and silver. A continuous expanse of glass on two sides floods the dining area with daylight. For evening, candlelight is favored. Kitchen and dining area have an integrated color scheme of white, gray, black, gray-green, and orange-red.

Photos: Laurence E. Tilley



data

Stool: #75/ Florence Knoll design/ birch top/ white-enameled metal legs/ stacking/ list: $18.00/ Knoll Associates, 575 Madison Ave., New York 22, N. Y.

Dining Chair: designed by Lambert Hitchcock, 1826.

Dining Table: architect-designed/ teak top/ L. Vaughn Co., 1153 Westminster St., Providence, R. I.

Armchair: #35/ list: $168.00/ Knoll.

Buffet: architect designed/ teak top/ white with orange-red drawer and door fronts and black ends/ L. Vaughn Co.

Storage Wall: architect-designed/ plywood painted gray-green/ teak counter/ built on site by contractor.

Sliding Glass Doors: "Tapestry"/ Pittsburgh Plate Glass Co., 632 Duquesne Way, Pittsburgh 22, Pa.

Kitchen Counter: #41 orange linoleum/ Armstrong Cork Co., Lancaster, Pa.

Drawer and Door Pulls: #420 & #435/ dull-chrome finish/ Colonial Bronze Co., Torrington, Conn.

Magnetic Catches: Laboratory Equipment Corp., St. Joseph, Mich.

Hinges: #920/ Stanley Hardware Co., New Britain, Conn.

Curtain: "Osnaburg"/ cotton bagging/ natural off-white/ 36" and 40" wide/ list: from $1.75 to $4.05 per yard/ Bemis Bros. Bag Co., 5112 Second Ave., Brooklyn, N. Y.

Kitchen Curtain: "Stratoplaid"/ designed by Don Smith/ cotton print/ 48" wide/ list: $2.25 per yard/ D. N. & E. Walter & Co., 562 Mission St., San Francisco, Calif.

Curtain Hardware: I-beam, carriers, and brackets/ aluminum/ Gould-Mersereau Co., Inc., 35 West 44 St., New York 18, N. Y.

Wall Bracket: #1701/ "coral red"/ list: $12.00/ General Lighting Corp., 1527 Charlotte St., New York 60, N. Y.

Table Lamp: #240 R/ handwoven reed shade/ plastic lining/ 15" high/ list: $21.90/ Paul Mayen, 49 West 19 St., New York, N. Y.

Asphalt Tile: #C-269/ gray-orange/ Kentile, 58 Second Ave., Brooklyn 15, N. Y.

Rubber Tile in Kitchen: #29/ gray/ Kleistone Rubber Co., Warren, R. I.

Rug: "Skyline"/ gray/ James Lees & Sons, Bridgeport, Pa.

Ceiling: Douglas fir splined/ painted white.

Windows: "Twindow"/ Pittsburgh Plate Glass Co.

Stove: "Liberator"/ General Electric Corp., Bridgeport 2, Conn.

Sink: #MC 16/ Hotpoint, Inc., 5600 Taylor St., Chicago 44, Ill.

Dishwasher: Hotpoint, Inc.

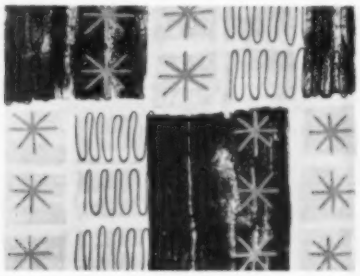
Refrigerator: #DA 84/ Westinghouse Electric Corp., P. O. Box 868, Pittsburgh, Pa.

Fan: #210 "Blo-Fan"/ Pryne & Co., Inc., Newark, N. J.

Paints: Barreled Sunlight Paint Co. and Benjamin Moore Paint Co.

wall bracket

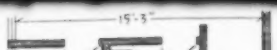
kitchen curtain—brown, gray, black, orange



chrome pulls

glass sliding doors

I-beam and carrier



p/a interior design data

kitchen-dining areas

fluorescent strips under redwood louvers
2" x 6" fir t & g
birch cabinet with walnut sliding doors
red cedar siding
screen—half-rounds on canvas

location | 21 acres—Ardsley, New York

designer | Martin Glaberson

data

Dining Chair: D C M / Eames design/ list: $29.50/ Herman Miller Furniture Co., Zeeland, Mich.

Table, Screen, Desk, and Cabinets: designed and built by owner.

Walls and Counter: red cedar siding/ 1" x 8"/ V joint.

Floor and Ceiling: 2" x 6" fir t & g.

Lighting Fixture: fluorescent strips with ¾" redwood louvers 3" o.c.

Refrigerator: General Electric Corp., Bridgeport 2, Conn.

Stove: General Electric.

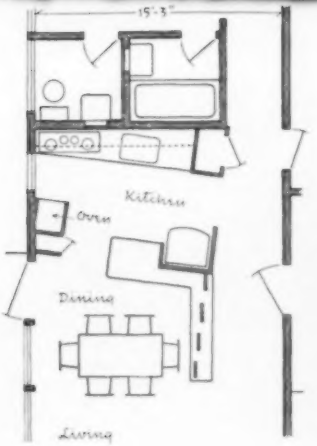
Sink: Crane Co., 836 S. Michigan Ave., Chicago 5, Ill.

Dishwasher: Hotpoint, Inc., 5600 West Taylor St., Chicago 44, Ill.

Kitchen Counter: green linoleum/ Armstrong Cork Co., Lancaster, Pa.

China: "Cloudburst"/ W. S. George Pottery Co., 225 Fifth Ave., New York 16, N. Y.

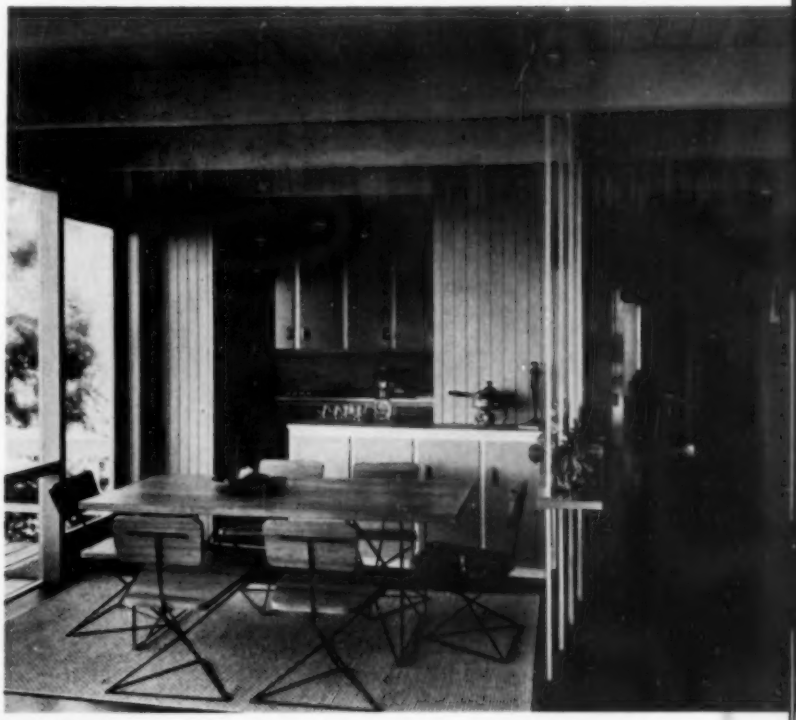
This kitchen-dining area belongs to the house shown on page 78. I.D.D., which likes to point at products that are mass-produced and available, has had trouble with its ingenious designer-owner. See that screen? It is made at home with half-rounds on canvas. That lighting fixture is made by spacing a required double rafter to hold fluorescent fixtures and redwood louvers. The table under the voluminous tablecloth is also homemade, as is all the cabinetwork. We like the individual touches and the practical placement of counters and cabinets to make easy separations between kitchen-dining and in this case, a study area too. *Photos: Lionel Freedman*



location | Sausalito, California

architects | Bolton White & Jack Hermann

2" x 6" Douglas fir t & g



data

Dining Table: 3' x 6'/ Conover design/ Philippine mahogany and black iron/ list: $80.00 approx./ Luther Conover, 601 Bridgeway, Sausalito, Calif.

Dining Chair: designer and material as above/ list: $25.00/ Conover.

Wall Bracket: #628 B/ satin-finish aluminum/ list: $13.44/ Gotham Lighting Co., 37-01 31st St., L. I. C., N. Y.

Floor: Siam teak strip flooring/ 2" wide/ Davis Hardwood, San Francisco, Calif.

Kitchen Floor: #25 plain linoleum/ terra cotta/ Armstrong Cork Co., Lancaster, Pa.

Kitchen Counter: #24 plain linoleum/ gray/ Armstrong.

Rug: Chinese straw matting/ list: $30.00 Lun On Co., 771 Sacramento, San Francisco, Calif.

Ceiling: 2" x 6" Douglas fir t & g.

Range: #SU 4 220 V/ elec. 3 burners/ stainless steel/ built-in/ Thermador Electric Mfg. Co., 5119 District Blvd., Los Angeles 22, Calif.

Oven: #WO-16 A/ stainless steel front/ built-in/ Thermador.

Sink: Crane Co., 836 S. Michigan Ave., Chicago 5, Ill.

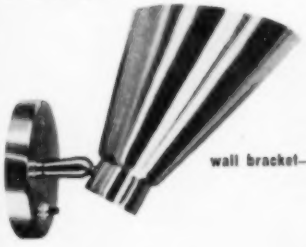
Dishwasher: Hotpoint, Inc., 5600 West Taylor St., Chicago 44, Ill.

Fan: #135 G/ Pryne & Co., Inc., Pomona, Calif.

Refrigerator: L F 8/ General Electric Corp., Bridgeport 2, Conn.

Chinese matting

terra cotta linoleum



wall bracket—satin-finish aluminum

The couple in this house, both professors, have little time to putter in the kitchen. Deliberately small and somewhat like the short-order department of a restaurant, this kitchen is efficient and easy to control. Design freedom is offered by the individual unit fixtures, which in this case aid a compact and convenient arrangement. Dining-living and kitchen are conceived as one space—the separating storage cabinet serving as counter, bar, and buffet. Siding is redwood, plaster wall is yellow, cabinet doors are gray-green, counter tops are gray, and kitchen floor is terra cotta. Ceiling, sash, and doors are Douglas fir and living-dining floor is Siam teak.

Photos: Rondal Partridge

FLUTEX pattern of Blue Ridge Glass used effectively with Mills Metal Walls in remodeling. Photo courtesy of The Mills Co., Cleveland, O.

Light for all... privacy for each

When space must be divided for privacy and efficiency, there's no need to divide the light. Use partitions that pass light through from room to room—partitions of Blue Ridge *Patterned Glass*.

Smart looking—and easy to keep that way. The wipe of a damp cloth keeps this attractive glass sparkling new.

And it's smart money-wise. Blue Ridge *Patterned Glass* is not expensive. Patterns are rolled in a continuous process which brings you fine quality glass at prices which permit freedom in its use. That's one reason its popularity is growing for use in offices, stores, schools, hospitals, homes—all kinds of buildings.

You can choose from more than 20 patterns of Blue Ridge Glass—linear, checkered or over-all designs. Select plain, Textured or *Satinol*® finish. Your L·O·F Glass Distributor can show them to you. He's listed in the phone directory of principal cities. Mail the coupon for our two helpful idea books which illustrate many uses of patterned glass.

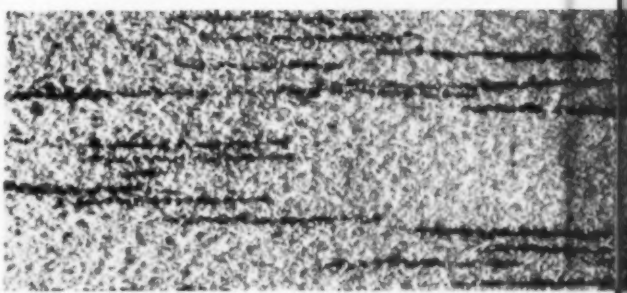
BLUE RIDGE
Patterned GLASS

Libbey-Owens-Ford Glass Company
Patterned & Wire Glass Sales
B-952 Nicholas Building, Toledo 3, O.

Please send me your two idea books:
Patterned Glass for Modernization in commercial buildings;
New Adventures in Decorating for residences.

Name (please print) _____
Street _____
City _____ Zone _____ State _____

Photosensitive Glass: produced for architectural application has pattern integral with the glass. Patterns offered are subtle and non-imitative of existing materials. Major application to date has been facing on the north side of the new United Nations assembly building. A three-dimensional image in the several colors (opal, sepia, or red-blue) possible with photosensitive glass, is expected to find wide use in displays and murals. Properties are said to be permanence, transparency, grainless image, fidelity of reproduction, and a wide range of tonal contrast. Facing on Corning Glass Center (above) and photosensitive glass used for a door (above, right). **Corning Glass Works, Corning, N.Y.**



"Strata": wool and some "Celcos" for added resilience and dye affinity/ looped weave/ tulip yellow, chartreuse, or aquamarine on natural ground/ **approx. retail:** $27.00 per square yard/ **Manufacturer: Nye-Wait Co. Inc., Auburn, N.Y./ Distributor: Raymond Heller of New York, Los Angeles, Chicago, San Francisco, Dallas, Denver, Boston, and Atlanta.**

Spongex Safety—Cushion Wainscoting: $1\frac{3}{8}$" laminate of plywood, rubberized hair, and cellular rubber covered with supported vinyl sheeting/ 2' x 6' panels complete with metal clips for attachment to furring strips/ manufacturer supplies instructions for installation/ **The Sponge Rubber Products Co., Shelton, Conn.**

Look at this! We're going to have to put new floors in the plant and executive offices, too.
Let's get in touch with the Kentile Flooring Contractor. He'll save us time and money.

You and your client both profit when you call in the Kentile Flooring Contractor

THE MOST important differences between various types of flooring are those that don't appear on the surface... that's why it takes an expert to decide whether a certain floor belongs in a certain installation!

The Kentile Flooring Contractor is that expert... a technically trained and experienced man who is fully qualified to select just the right floor... the one floor that will provide the longest life at the lowest cost... as well as minimum maintenance expenses.

Whether your flooring problem is one room in a home or store... or thousands of square feet in a factory, warehouse or office, it will pay you to call in the Kentile Flooring Contractor. For his name, look under FLOORS in the classified pages of your phone book... or write Kentile, Inc., 58 Second Ave., Brooklyn 15, New York. In Canada, T. Eaton Co., Ltd.

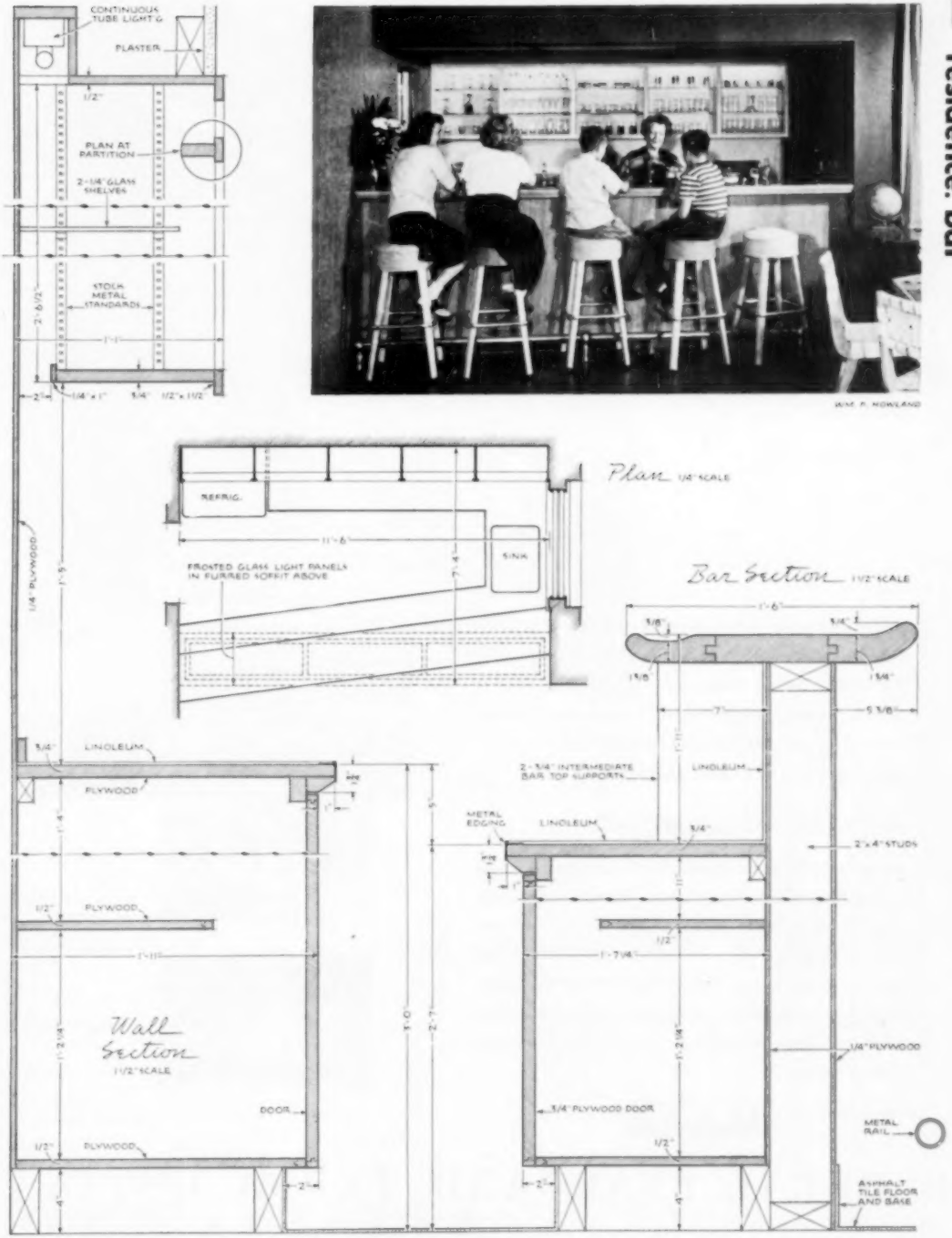
• Where rugged, extra-heavy duty flooring is required, the first choice is SPECIAL (greaseproof) KENTILE... its colorful beauty resists the wear of constant exposure to industrial and cooking greases and oils, alkali, alcohols and most acid solutions. It is of special value in providing long-range economies in installations like the one shown here; restaurants and cafeterias; light manufacturing areas; laboratories; and garages. SPECIAL (greaseproof) KENTILE can be installed over any smooth, firm interior surface... even below grade over concrete in direct contact with the earth.

KENTILE • SPECIAL *(greaseproof)* KENTILE • KENRUBBER • KENCORK

KENTILE INC.

KENTILE, INC., 58 Second Avenue, Brooklyn 15, New York • 350 Fifth Avenue, New York 1, N. Y. • 705 Architects Building, 17th and Sansom Streets, Philadelphia 3, Pennsylvania • 1211 NBC Building, Cleveland 14, Ohio • 225 Moore Street, S.E., Atlanta 2, Georgia • 2020 Walnut Street, Kansas City 8, Missouri • 1440 11th Street, Denver 4, Colorado • 4532 South Kolin Avenue, Chicago 32, Illinois • 1113 Vine Street, Houston 1, Texas • 4501 Santa Fe Avenue, Los Angeles 58, California • 95 Market St., Oakland 4, Calif. • 452 Statler Building, Boston 16, Mass.

WM. F. HOWLAND



PAINTER RESIDENCE, Kittanning, Pa.

Caleb Hornbostel, Architect

BUDGET LIMITATIONS NEED NOT BANISH BEAUTY FROM PUBLIC HOUSING PROJECTS!

When specified in combination with face brick or other materials, Enduro-Ashlar Architectural Terra Cotta enables you to meet budget limitations while providing needed relief for severely simple designs. You can specify one or more of an unlimited range of ceramic colors for entrances and trim to your housing project.

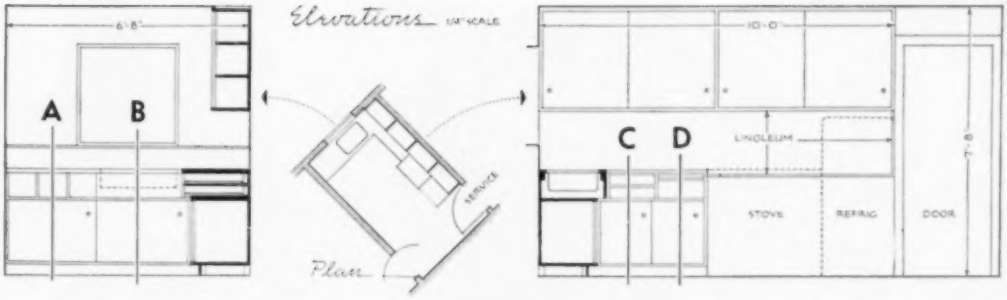
INVITATION TO ARCHITECTS!

If you would like all the facts on how Enduro-Ashlar Architectural Terra Cotta helps you solve unusual design problems, phone or write us today. The Federal Seaboard engineering department is available to you from the initial planning stages through drafting and construction. Advice on preliminary sketches, as well as construction detail, data, color samples and estimates, will be furnished promptly without charge.

FSTC

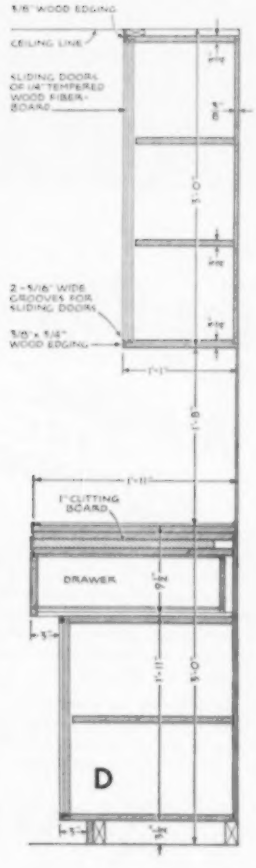
FEDERAL SEABOARD TERRA COTTA CORPORATION

10 EAST 40th STREET, NEW YORK 16, N. Y.
Plants at Perth Amboy and South Amboy, N. J.

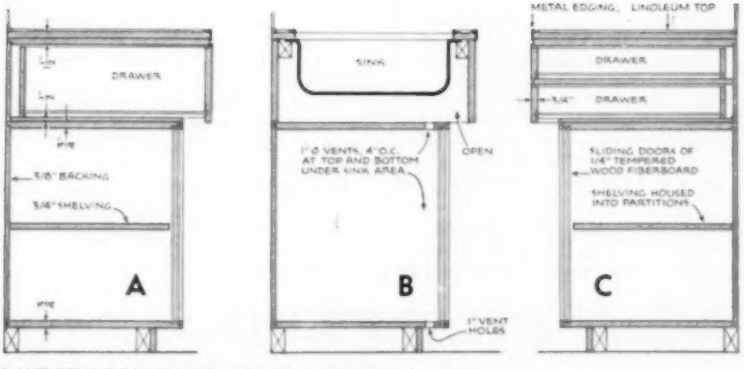


DEARBORN-MASEAT

ALL CABINETS MADE OF PLYWOOD



Base Cabinet Sections 1/4 SCALE



LAKEVIEW BOULEVARD APARTMENTS, Seattle, Wash.
Chiarelli & Kirk, Architects

A partial view of the Sloane Koroseal Tile Supreme installation in the busy Main Attended Public Telephone Station in Grand Central Terminal, New York City. Color is Hunter Green.

The floor for *LONG DISTANCE* service!

KOROSEAL* TILE SUPREME

stands up under the heaviest traffic in this busy public telephone station . . . provides beauty, comfort and quiet . . . gives dependable, lasting service

Day after day, the beautiful and rugged Sloane Koroseal Tile Supreme floor, above, is exposed to the pounding feet of thousands who use the N. Y. Telephone Co. facilities. Yet, this durable vinyl plastic tile floor is as colorful and serviceable as the day it was installed.

In addition to its greater wearing strength, Koroseal Tile Supreme is impervious to grease, oil, alkalies, strong soaps and other floor-destroying substances. Its beautiful colors can't wear out . . . they go through the thickness of the tile . . . won't fade or stain. You enjoy easy, economical maintenance because dirt can't grip its nonporous surface . . . simple soap-and-water mopping, and, if you prefer, an occasional thin waxing, keep it looking brand-new.

When you specify Sloane Koroseal Tile Supreme you specify the finest in floor covering service and comfort—*plus an outstanding selection of 18 beautiful colors in Marbletone or Crystaltone effects.*

For lighter traffic areas, Sloane Koroseal Tile Deluxe is recommended. Lighter in weight, it offers all the advantages of Koroseal Tile Supreme.

Send today for free samples and specifications. Write Sloane-Blabon Corporation, Dept. P5, 295 Fifth Ave., New York 16, N. Y.

SLOANE Quality PRODUCTS

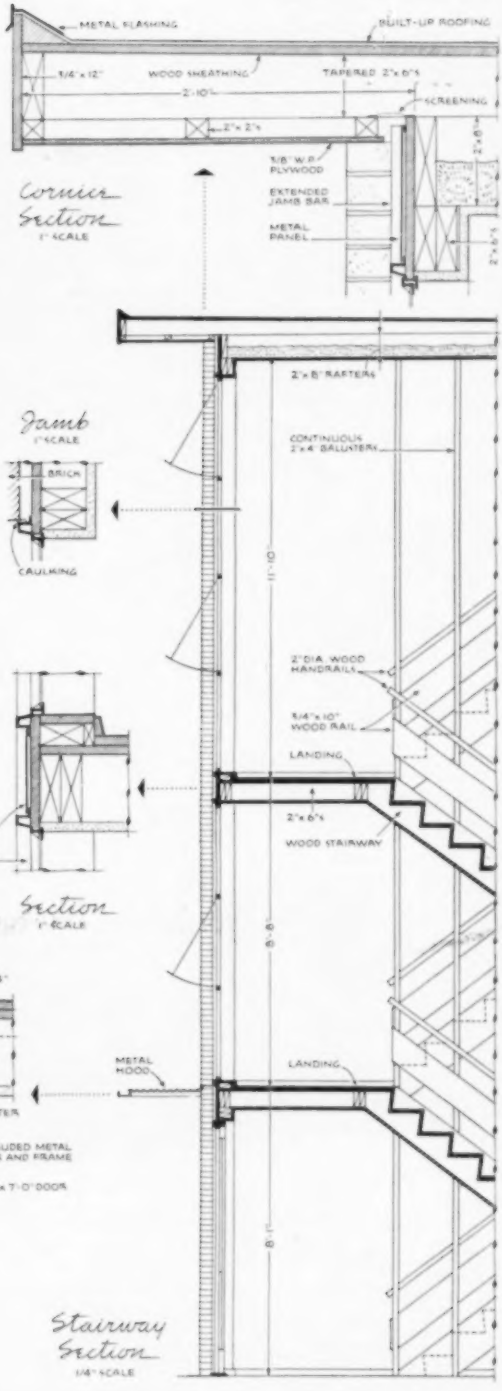
SLOANE *Koroseal** TILE SUPREME

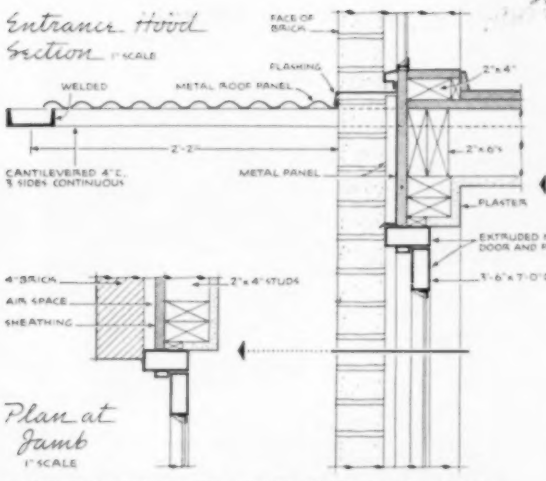
*Koroseal is a registered trade-mark of the B. F. Goodrich Company.

SLOANE-BLABON CORPORATION • A DIVISION OF ALEXANDER SMITH, INC.

LINOLEUM • TRENWALL • KOROSEAL TILE • LINOLEUM TILE • RUBBER TILE • TREN-FLEX TILE • TRENTONE RUGS AND FLOOR COVERING

GRATBORN - MASSAR





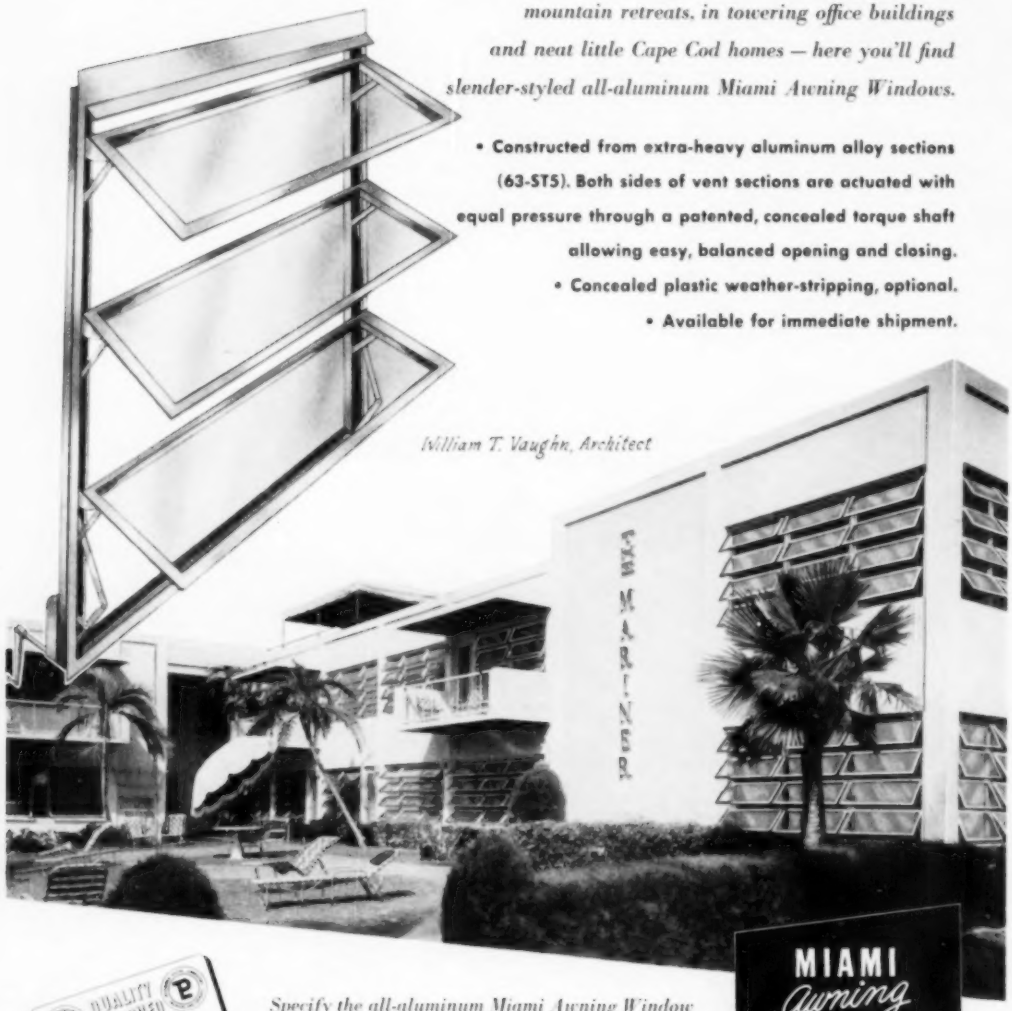
LAKEVIEW BOULEVARD APARTMENTS, Seattle, Wash.
Chiarelli & Kirk, Architects

The Pace-Setter . . .

THE ALL-ALUMINUM MIAMI AWNING WINDOW

Along America's Southern Riviera and San Francisco's mountain retreats, in towering office buildings and neat little Cape Cod homes — here you'll find slender-styled all-aluminum Miami Awning Windows.

- **Constructed from extra-heavy aluminum alloy sections (63-ST5). Both sides of vent sections are actuated with equal pressure through a patented, concealed torque shaft allowing easy, balanced opening and closing.**
- **Concealed plastic weather-stripping, optional.**
- **Available for immediate shipment.**



William T. Vaughn, Architect

QUALITY APPROVED A.A.I.

Specify the all-aluminum Miami Awning Window for homes, hospitals, schools, and office buildings.

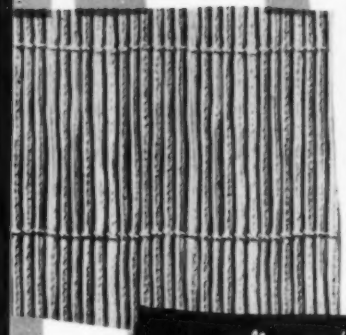
Air Infiltration Tests Taken by Pittsburgh Testing Laboratories

MIAMI *Awning* WINDOW

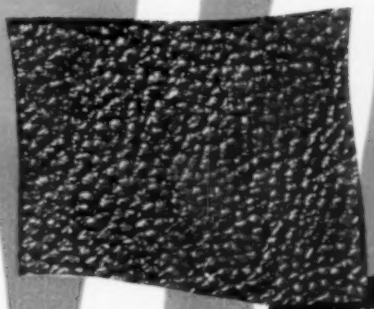
For further information, see Sweet's Architectural File 17A/Mi *or — write, wire or phone Miami Window Corp., Dept., BF-4.*

MIAMI WINDOW CORPORATION 5200 N.W. 37th Ave., Miami, Fla.

EYE - OPENING IDEA



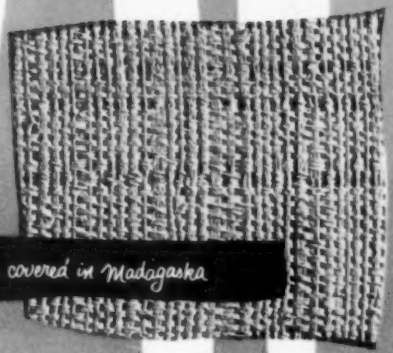
walls covered in Bambu



columns in Algeria

Ever eye four walls and wonder about covering them? Ever frown at a chair and worry about upholstery? The Walter M. Ballard Corporation covered dozens of walls, hundreds of chairs in decorating the spacious lower level food service for Pittsburgh's new Gateway Center... and *one* material solved *all* decor problems.

A variety of unusual molded Viertex textures in fascinating light and dark colors gave Ballard the "tools" to create a series of public dining rooms that are luxurious in appearance, yet wonderfully practical, too. Viertex combines the advantages of both plastic and fabric; can be cleaned with a damp cloth; resists soil and stains; won't crack, flake or peel; can be draped and folded; is practically indestructible.



banquettes & chairs covered in Madagaska

For the best "SEEING" in town... Viertex PLASTIC FABRICS, new 3-dimensional textures for wall coverings and upholstery.

WRITE TODAY for samples of original Viertex patterns
• Bambu • Madagaska • Algeria • Valencian • Dragon • Tweed-Tone

L. E. CARPENTER & COMPANY, INC.

SALES OFFICE: 130 West 42nd Street, New York 36, N. Y. • LOngacre 4-0080
MILLS: Wharton, New Jersey

Gateway Cafeteria. Gateway Center, Pittsburgh, Pa.; designed by The Walter M. Ballard Corporation, New York.

These floors will STAY beautiful, bright, and quiet!

This smart, gleaming installation in the new Windham Community Memorial Hospital, Willimantic, Connecticut, will always be easy to walk on, easy to keep clean.

They're famous GOLD SEAL NAIRN LINOLEUM ...satisfaction guaranteed!

When floors *have* to take a daily beating and still come up smiling... year after year after year... then there's only one floor covering that *really* fills the bill. And that's Gold Seal Nairn Linoleum... backed by the strongest money-back guarantee in the business!

Gold Seal Nairn Linoleum gives you everything you could possibly ask for in a floor: *long life... enduring beauty... easy maintenance... true resilience.* All backed by the good-as-gold Gold Seal guarantee of *satisfaction or your money back!*

The Gold Seal is your money-back guarantee of satisfaction from the makers of the finest floor coverings in the world:

GOLD SEAL NAIRN LINOLEUM
GOLD SEAL ASPHALT TILE
GOLD SEAL VINYL INLAIDS

"Gold Seal" and "Nairn" are registered trade-marks. © 1952, Congoleum-Nairn Inc., Kearny, N. J.

PLAN FOR TOMORROW

BEFORE **Sun-struck Windows** of Lockheed Aircraft Corporation's Burbank, California plant created eyestraining glare, allowed heat rays to penetrate glass, caused uncomfortably high inside temperatures. Appearance of building exteriors was spoiled by unevenly adjusted blinds and the open and closed windows.

AFTER **Kaiser Aluminum Shade Screen** now covers 10,000 square feet of windows on 7 buildings of the Lockheed plant. Thousands of tiny louvers deflect hot rays *before* they hit glass. Result: Glare eliminated. Interiors up to 15° cooler, more comfortable for work. Exteriors dramatically improved by uniformity of windows—emphasis of modern, horizontal lines.

WITH ALUMINUM

THERE'LL BE plenty of aluminum available for tomorrow's building requirements as a result of today's industry-wide expansion.

Kaiser Aluminum alone is building new facilities which will increase its pre-Korea production of primary aluminum by 132 per cent!

So make your plans now to utilize the many advantages of light, strong, corrosion-resistant aluminum.

Check Before You Substitute

Most Kaiser Aluminum today goes to help meet the needs of the national security program. That's why it is not always readily available.

However, before you specify less-satisfactory substitute materials, ask for Kaiser Aluminum.

You may still be able to give your clients the best—Aluminum!

A Few of Today's Modern Aluminum Applications

Building materials made of Kaiser Aluminum offer exclusive advantages in design, beauty, and quality. Shown here are a few recent applications that prove aluminum is your best building material for tomorrow's plans.

Write for Information

Write for full information about any Kaiser Aluminum building product—and for AIA files. Kaiser Aluminum offices in principal cities. Kaiser Aluminum & Chemical Sales, Inc., Oakland 12, California.

Kaiser Aluminum

Building materials for home, farm and industry

Kaiser Aluminum Siding, ideal for building or remodeling, gives sparkling modern look to Malley's Candy Shop, Cleveland. Weatherproof, rotproof, rustproof, aluminum siding lasts for generations. Baked-on enamel coat gives smooth surface that looks better, is easy to clean. Designed and erected by Lumi Land Distributing Co., Rocky River, Ohio.

Kaiser Aluminum Roofing on these Liggett & Myers tobacco warehouses is strong, *solid* corrugated aluminum. Bright surface reflects sun's rays—helps maintain uniform inside temperatures, often so important in warehousing goods. Specified by owner W. O. Crombie of Paris, Ky., because of aluminum's "complete lack of maintenance requirements."

Kaiser Aluminum Ductwork used in Los Angeles Times Building was fabricated *right on the job*, eliminating costly handling, trucking, storing of bulky pre-assembled sections. Easily fastened with rivets, by welding, or with sheet metal screws. Installed faster with less worker fatigue. And uninsulated aluminum delivers as much heat as insulated galvanized material at lower cost.

Nail down building costs with PlyScord® Subflooring

THE REAL STORY of construction costs isn't always shown on the bill of materials. It's the *applied* cost that counts! PlyScord subflooring can be laid in less than half the time required for lumber subflooring. Big, work-speeding panels are light, easy to handle . . . cover large areas quickly . . . fit standard joist spacing without wasteful sawing and fitting . . . require far fewer nails.

PlyScord subflooring means *better* construction, too. Plywood's rigid plate-like action protects against violent racking action of wind or earthquake. Strong, rigid panels provide a solid, squeak-free base for finish flooring . . . protect against drafts from below. PlyScord subfloors won't cup, shrink or swell. Result: finish floors look better, last longer.

Plan now to include PlyScord in your next bill of materials—for better construction, for building economy.

Douglas Fir

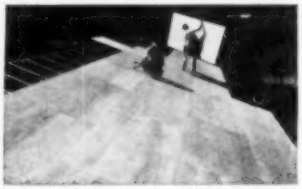
Plywood

AMERICA'S BUSIEST BUILDING MATERIAL

® PlyScord is the unsanded construction grade of Interior-type plywood bonded with highly water resistant glues. For subflooring, sheathing, backing, one-use forms. PlyScord is a registered grade-trademark identifying quality plywood manufactured in accord with U. S. Commercial Standards and inspected by Douglas Fir Plywood Association (DFPA).

PANEL DISCUSSION

FHA Accepts 3/8" Plywood Over Rafters 24" O. C.



On the basis of recent tests and experience data, Federal Housing Administration now accepts plywood 3/8"-thick as roof decking over rafters spaced 24" on centers, according to a letter from Curt Mack, assistant commissioner of the FHA underwriting office, to Douglas Fir Plywood Association. A revision of FHA Minimum Property Requirements is planned; meanwhile, FHA at Washington (Underwriting Office) will advise any insuring office upon inquiry that 3/8" plywood over rafters 24" on centers will be accepted. Plywood roof deck thicknesses now accepted by FHA are shown below in tabular form.

Roofing Material	Max. Rafter Spacing	Min. Plywood Thickness
Wood, Asphalt Shingles	16"	5/16"*
	24"	3/8"*
	24"	1/2"
Slate, Tile, Asbestos-Cement	16"	1/2"
	20"	1/2"
	24"	5/8"
Flat Roofs	16"	3/8"
	20"	1/2"
	24"	5/8"

*Under wood shingles. If plywood is less than 1/2" thick, apply 1" x 2" nailing strips.

A folder giving detailed information regarding use and acceptance of Douglas fir plywood in homes built under FHA financing may be had free of charge from Douglas Fir Plywood Association, Tacoma 2, Washington.

Concrete Intaglio

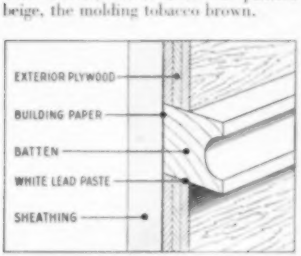
Plywood cut-outs, nailed to the plywood form face, were used to create these whimsical nursery figures on the exterior concrete wall of the kindergarten play yard at the Whitman School, Tacoma, Wash. Architect John G. Richards of Lea, Pearson and Richards developed the idea. Over 7' high, the figures were formed using 3/8" plywood cut-outs, secured to 3/8" form panels. On the soon-

to-be-completed project, plywood forms are being re-used as roof decking. Contractors: Standard Construction Co., Tacoma, Washington.

Speeds Siding Application

Builder-Owner H. J. Cox reports application time and labor costs were reduced by one-third with Douglas fir plywood siding in building this Eugene, Oregon, home. "Not only did the plywood help hold costs down," Builder Cox reports,

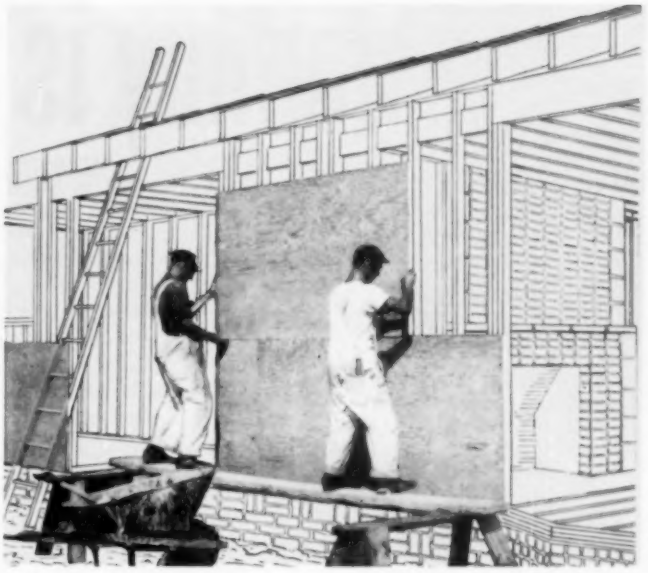
"but after over four years exposure to our rainy Northwest weather, the siding looks as good as the day it was finished." Architect Percy D. Bently specified the interesting batten detail shown. Exterior plywood panels were sawn to correspond with the bevel of the specially run molding and tightly fitted with a sealing of white lead paste. Corners were formed with 5/8" quarter rounds. The siding—4'x8' sheets, cut to 2'x8'—is painted beige, the molding tobacco brown.



Plywood Cottages Weather Hurricane

Dramatic proof of plywood's superior strength and rigidity was given last year when up-to-100 m.p.h. winds lashed the Jersey coast in one of the worst hurricanes to hit since 1938. Among the luckiest of those who took the full brunt of the screaming wind were owners of the 500 plywood cottages at Ocean Beach, N. J. All around the development, roofs were ripped away, church steeples toppled and conventional homes smashed beyond repair. According to A. C. Pearl, project sales manager, not one of the plywood houses suffered structural damage. "We attribute this to the outstanding bracing strength provided by plywood which was used as combined siding-sheathing."

(Adv.)



PlyScord© Sheathing-Best under any conditions

ANY CONDITIONS—including wind storms or earthquakes, U. S. Forest Laboratory tests prove plywood sheathing to be *twice* as strong, *twice* as rigid as any other material.

This superior bracing strength is particularly important in windy locations or earthquake areas. Plywood shear walls are also used to good advantage to compensate for loss of lateral rigidity in structures with walls containing large openings or areas of glass.

PlyScord, the sheathing grade plywood, offers many other advantages. It can be applied 25% faster, saving time and labor. PlyScord provides the perfect base for finish siding and roofing. It holds nails well . . . won't split, crumble or puncture. Big panels insulate, seal out drafts . . . make homes warm, snug, stable—now and five or fifteen years hence.

Douglas Fir

Plywood

AMERICA'S BUSIEST BUILDING MATERIAL

© PlyScord is the unsanded construction grade of interior-type plywood bonded with highly water resistant glues. For subflooring, sheathing, backing, one-use forms. PlyScord is a registered grade-trademark identifying quality plywood manufactured in accord with U. S. Commercial Standards and inspected by Douglas Fir Plywood Association (DFPA).

Johnny is more alert

Bloom Township High School; Chicago Heights, Illinois, presents an interesting DRAFTISTOP installation with unit ventilators and cabinets level with the sill. All auxiliary cabinets are equipped with doors for neat appearance. Superintendent of Schools, Dr. Harold H. Metcalf; Architects, Royer & Davis; Consulting Engineers, E. C. Manthei Consulting Engineering Service.

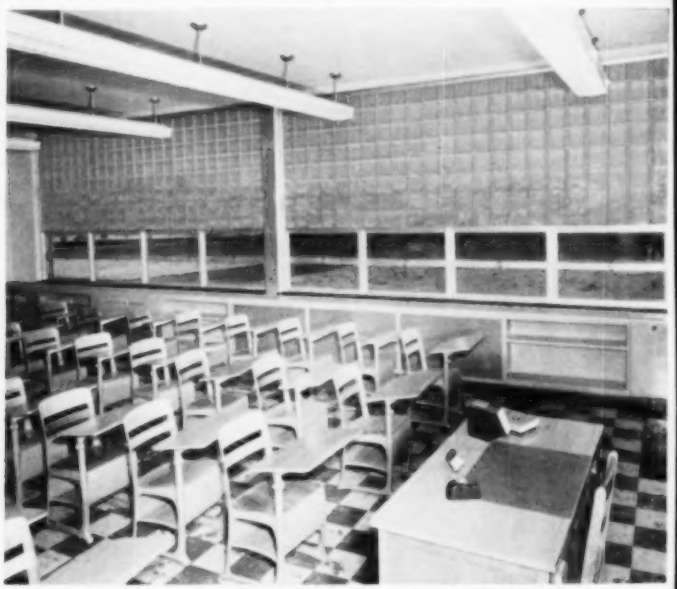
No matter what we may think about "The Good Old Days"—actual statistics show the typical schoolboy today is learning faster and better than his parents. Better teaching methods, better textbooks and better physical environment for learning all play important parts in making Johnny a more alert and healthier student.

The modern schoolroom has about as much resemblance to the schoolroom you and I knew, as the modern automobile has to the Model T. Seating, lighting, noise control and heating and ventilating have been dramatically improved.

Herman Nelson has played a key part in the development of the modern schoolroom by providing automatic heating and ventilating equipment that sets the pace for other advances.

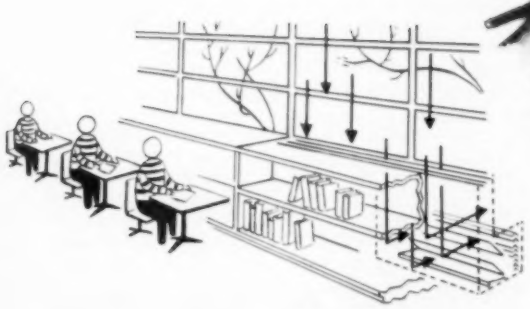
The Herman Nelson DRAFT|STOP system earns its name by overcoming the drafts caused by the big windows of the modern schoolroom—and at the same time providing proper heating, cooling and ventilation to keep the students healthy and alert. DRAFT|STOP equipment is the approved solution for modern schools all over the country. If you are contemplating a new school building or a modernization program you should have full information about DRAFT|STOP. Write Dept. PA-5, Herman Nelson Division, American Air Filter Company, Inc., Moline, Illinois.

George Washington School; Moline, Illinois, utilizes unusual treatment of clerestory lighting through means of corrugated glass for its deep classrooms. DRAFTISTOP unit ventilators were selected by Superintendent of Schools, Alex Jardine; Architect, M. R. Beckstrom.



Eastern Suburban Junior High School; Silver Springs, Maryland, has modern classrooms with vision strip and wall-to-wall DRAFTISTOP installation. A filler piece completes the harmony of the unit ventilator and cabinet installation. Cabinets have adjustable shelves for ease of handling various size materials. Assistant Superintendent of Schools, Dr. Richard E. Carpenter; Architect, Ronald Senseman.

these days...



Write today for your free copy of the new Herman Nelson DRAFT|STOP Catalog and schoolroom heating-ventilating guide.

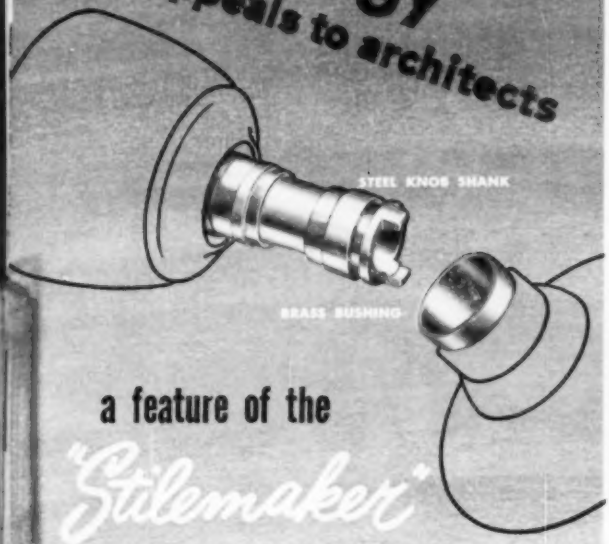
HOW DRAFT|STOP STOPS DRAFTS

In the exclusive DRAFT|STOP system, window downdraft is completely controlled at all times. Provision for constantly trapping cold air downdraft at the windows is offered only in the Herman Nelson DRAFT|STOP system.

DRAFT STOP **HERMAN NELSON**

SYSTEM OF CLASSROOM VENTILATION

construction strategy that appeals to architects



a feature of the "Stilemaker"

From your engineering background, you'll recognize the advantage of making a knob shank of steel and bushing of brass. The use of two, time-proven bearing metals assures extra long service life ... a feature of the Russwin "Stilemaker". ✓ ✓ ✓ In addition, "Stilemaker" construction employs the same shifting roll back principle used so successfully in *UNIT locks . . . another assurance of long service life as well as smooth, positive operation. The appeal of "Stilemaker" construction is reflected everywhere in more and more architects' specifications. Russell & Erwin Division, The American Hardware Corporation, New Britain, Conn.

*Copyrighted

Engineered to Architect's Specifications

All Popular Functions

Knob Styles . . in wrought or cast bronze or brass

RUSSWIN®
"Stilemaker"

BY THE MAKERS OF THE ORIGINAL KEY-IN-THE-KNOB LOCK

Bridge over Roosgraben, Bern—Maillart, 1932

Robert Maillart's Concrete Bridges

By Edgardo Contini

In our civilization, which has come to rely upon the technical achievements of engineering for almost all of its integrated functions, the personality of the engineer, paradoxically enough, has lost in significance. A clever technician, but no longer a "creator," the engineer has failed to assert himself, in the last generations, as a vital contributing factor to the search for contemporary culture.

If, occasionally, his identity or his achievements are acknowledged by the society of which he is part, magnitude of performance rather than quality is stressed—"the longest pipeline," "the tallest building," "the multimillion-dollar dam" —of these we hear. But "invention" as creativeness in the Leonardian sense; "search" above and beyond formulas, search as a means of expression; these seem no longer associated with the engineer's functions. He is expected to produce, not to try; much less, to fail.

When the Tacoma bridge collapsed in tragic and grotesque contortions, the dramatic and almost moving meaning of the failure went generally unnoticed. The bridge, even if not the "longest in the world," had been conceived in extreme daring; the very high ratio of span to width, the almost incredible spidery lightness represented an excursion into the unknown very rare in our cautiously experimental times. The fall of the contemporary Icarus was mourned in terms of insurance company's losses.

More than any other factor, the absurd scholastic schism that took place at the second half of the last century ("design" to the architect, "stress diagrams" to the engineer) is responsible for the engineer's retreat from concern with creative expression. Today's engineer, proud of his indispensability, contented with the arbitrary division of duties, does not seem to be aware that it used not to be so; that it ought not necessarily be so now; and that knowledge of techniques and skill with formulas, alone, will not guarantee the validity of his contribution to the civilization of his time. In this light, the outstanding originality of the work of Robert Maillart acquires singular significance.

●

Maillart's bridges are light, easy, almost self-assured; they are not impressive for extreme length of span, nor, at all times, for glamour of setting: they straddle deep mountain gorges or shallow peaceful rivers with the same competent poise and clear elegance. Truly an achievement of pure engineering, they are entirely consistent with their function: not one detail is handled for effect, yet the "effect" is, unmistakable, in their essence. The use of reinforced concrete is unconventional and extremely daring; but neither novelty of design nor appreciation of tech-

nical skill represent the main factors of the enjoyment that they offer: it is rather the convincing harmony of the few and simple elements and the uncompromising sincerity and originality of the conception that provide such a rare expression of the esthetic potentialities of inventive engineering.

His bridges are indeed an unusual product of creative art: they affect with a subtle, long-lasting, almost disturbing impact; their thinness, their clarity, their implicit logic strike one's mind to unpredictable resonances and associations:

—Sassetta's landscapes of dream and fantasy made alive and real.

—Slabs, fins, ribs, playing in space as notes from a Mozart musical game.

—And (a strange rediscovery when viewing one of his three-hinged arches under a strong perspective angle) Brunelleschi's dome in Florence.

This last association will perhaps lead us into an attempt to clarify the ultimate relationships between forms and materials.

●

The ribbed-masonry dome (probably the most satisfying expression ever achieved with masonry construction) can be fancied as a stretched out, flatter, lower, thinner image of itself: and it will be transformed into the three-hinged ribbed shell of reinforced concrete.

It would not be easy to find even one example of a suspension bridge in which the basic scheme is brought to its ultimate expression—uncluttered by architectural decorum and entirely self-sufficient in its structural wholesomeness—with a measure of success comparable to that achieved by Maillart's concrete structures.

Having recognized and acknowledged the emotional impact brought by Maillart's completed works, it seems important to analyze the essence of his creativeness. If we can arrive at any findings, we will have in our hands a yardstick, absolute and unaffected by scholastic polemics, by which to measure and evaluate the validity of contemporary architectural trends.

One finding seems to stand out clearly: namely that the esthetic validity, the essence of Maillart's contribution, rests on the very fundamental of a creative builder's genius: "search for structure" (as differentiated from "search for form," as well as from "structural design"). The success of the search being asserted, now as in times past, by the growth of a form.

●

Historically, of course, the successful "search for structure" is recognized among the primary factors that establish the validity of an original architecture. The form of the Roman masonry arch, the form of the Gothic cathedral, the form of the Penn-

(Continued on page 145)

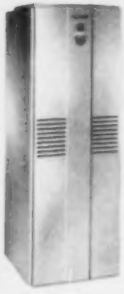
Bridge over Arbe, near Geneva—Maillart, 1936
Photos: Museum of Modern Art

"You save a lot more than space with this broom-closet furnace"

says Hess Swallow,

Bryant, Detroit Branch Manager

"Out of sight, out of mind" is by far the *safest* approach to concealed heating. Such equipment has to be *right*—or it's all wrong, and few can afford to have that happen. Making things *right* is an old Bryant custom, and it certainly has paid off in the way you've accepted our *Vertical Forced-Air* Furnace. It has paid off for *you*, too, in the way this compact, highly efficient gas furnace has performed—in thousands of single dwellings, more thousands of multiple-housing units, over the country. Completely automatic and occupying as little as two square feet of floor space in the smaller sizes, the Bryant Vertical Gas Furnace can help you cut construction costs while providing more living space for homemakers. Your Bryant Distributor will be glad to give you all the details and help you fit the Bryant Vertical into your plans. Or you may write Bryant Heater Division, Dept. 194, Affiliated Gas Equipment, Inc., 17825 St. Clair Avenue, Cleveland 10, Ohio.



Bryant Model 304
Winter Air Conditioner

Gas-fired, forced-air furnace. Six sizes, with inputs from 45,000 to 145,000 Btu per hour. Approved by A. G.A. for all gases. Features *Hevigage* Heat Exchanger and *Push-Button* Ignition (city gases only).

bryant *best buy*

IN HEATING,
AIR CONDITIONING,
WATER HEATING

Robert Maillart's Concrete Bridges

(Continued from page 143)

sylvania frame barn, are understood as growth and integration of diverse factors: engineering intuition experimentation, consistency with contemporary social order, skill in the use of available materials. However, it seems that in the evaluation of today's architecture the standard of growth and consistency is being somehow disregarded.

In part, this may be due to the fact that availability of ever-new materials and techniques tends to tempt the designer (and the critic) into patterns of eclectic originality rather than into patient and self-disciplined experimenting and refining. In a larger part, probably, the cause is to be found in the disappearance, in our day, of the personality of the "master builder." A very disjointed trilogy—architect, engineer, contractor—has, by necessity of specialization, taken its place; but it has failed to substitute for the consistency of single-minded imagination a successful technique of creative collaboration.

The consequences are apparent in the trends of contemporary architecture. The Classic School, somewhat hypnotized by the dogma of the steel handbook, seems to have accepted without much questioning the "column-beam-90° angle" pattern of vertical and horizontal play; and has shown a tendency to substitute for over-all imaginative creativeness the skillful handling of planes, volumes, and patterns within the accepted frame; in the process often forcing materials into schemes alien to their structural characteristics. The Romantic School, more sensitive to the qualities and potentialities of new and old materials, has boldly and often very beautifully "invented"; yet, its concern being primarily with form, its imagination being essentially emotional, it has tended to go beyond logic and function, to the extent of requiring the help of hidden and unexpressed structures to achieve static reality for its dreams.

●

Maillart's work belongs to no school and follows no trend as such; nor can it start one of its own. Its contribution to the growth of a contemporary architecture rests—even more than in the brilliant achievements, which are limited to a specialized field—in the assertion of an attitude; an attitude of youthful response to challenge, of freedom from dogma, of joyous creativeness. Nowhere more than in the Schwadbach River Bridge is this attitude apparent. The problem of designing a highway bridge along a curved alignment has often occurred. It has been solved, in general, by forcibly running along the curve a structure conceived for straight line; by avoiding long spans and, not infrequently, by running the bridge straight (the issue avoided, the challenge unanswered!) and by taking up the required change of direction in curves along the approach ramps. Maillart's solution is brilliant, daring almost beyond belief: the supporting arch is conceived as a thin, slender arched slab; the horizontal roadbed slab following the elliptical alignment of the road, anchors at the abutments and stiffens the arch that supports it, elegantly absorbing in horizontal bending the torsional moments introduced by the curvature.

The result is one of the most remarkable structures of our time; one in which we may well read, clearly expressed, the basic rule of engineering design: given a structural material, study its behavior, arrive at a complete understanding, at a "feeling" for its physical and its esthetic potentialities; forget the handbook; and then (then only) let inventiveness run free. Work will develop as something organic, beautiful, and ageless.

STANDARD FOR
ACID RESISTANCE
DURIRON
Acidproof Drain Pipe
Duriron lasts the life of the building under most corrosive conditions. Resistance to corrosion is the thickness of the pipe wall. Duriron pipe can be placed within walls or floors without fear of leakage or need of replacement. Duriron pipe is installed by ordinary plumbing methods.
For full details on these and other reasons why Duriron is "standard" for corrosive waste disposal, write for the free catalog PF/1.
DURIRON
LOOK FOR THE NAME ON EVERY PIECE
THE DURIRON COMPANY, Inc.,
401 North Findlay Street, Dayton 1, Ohio

BOOKS RECEIVED

As You Pass By. Kenneth Holcomb Dunshee. Hastings House, New York, N. Y., 1952. 278 pp., illus. $10

Forms and Functions of 20th Century Architecture. Volumes 1, 2, 3, and 4. Edited by Talbot Hamlin. Columbia University Press, New York, N. Y., 1952. Illus. $75 per set

Building in England—down to 1540. L. F. Salzman. Oxford University Press, 114 Fifth Ave., New York, N. Y., 1952. 595 pp., illus. $12.50.

Tool Steel Handbook. Allegheny Ludlum Steel Corp., Pittsburgh 22, Pa., 1951. 197 pp.

Wrought Iron Work. Paul Artaria, Wepf & Co. Verlag, Basel, Switzerland, 1950. Introduction in German and English. 107 pp. of drawings and photos.

a good RULE to follow
GET ALL THE FACTS!
check and double-check the
LOXIT
FLOOR-LAYING SYSTEM
Progressive architects, engineers, contractors and school authorities all over the country experience the benefits of the Loxit Floor Laying System in scores of installations. There are Loxit-laid floors in schools and other public buildings in your locality. See them for yourself. Get the facts about the Loxit wood floor laying system. Write for details, specifications and hand model.
LOXIT
SYSTEMS, INC.
1217 W. Washington Blvd.
CHICAGO 7, ILLINOIS

enviable achievement

***Early American Architecture.** Hugh Morrison. Oxford University Press, New York, N.Y. 1952. 619 pp., illus. $12.50*

Hugh Morrison has produced a volume which will constitute a milestone in the recording of American Architecture. Restating Isaac Ware in his foreword, his purpose is ". . . to instruct rather than to amuse; in which nothing will be omitted that is elegant or great; but the principal regard will be shown to what is necessary or useful." Unlike the local orator who "spoke from his subject rather than upon it," Morrison has hewn to the line and given us a book of high importance which for the first time provides us with a history of architecture in this country that covers our entire geographical area in a scholarly and highly dependable way.

With commendable thoroughness he analyzes the origin, and growth of the colonial styles by divisions in the eastern states from New England to Florida, the Spanish Southwest, the Mississippi Valley, and Alta California. He proceeds in turn to the Georgian period, first providing us with a pertinent discussion of the European components which entered into the establishing of Georgian practice in this country. Shrewdly differentiating between stages of development within the broad style, he thoughtfully explores the regional characteristics in our principal centers of architectural influence up to Neoclassicism and the Age of Revivals.

Separate building types are discussed, plans, sections, and elevations are analyzed, building materials and methods are explored. He shows us the bibliographic sources available to our designers and explains the logical deviations made in interpreting them in actual practice. Old drawings are reproduced, historical documents, contemporary letters, and travelers' comments are included in a way that richly vitalizes his treatment. Restoration drawings of buildings long destroyed or seriously altered, lend an added dimension and value to his discussions.

With sound judgment he makes use of the findings of the most eminent contemporary scholars in the field such as Fiske Kimball, Thomas Waterman, J. F. Kelly, H. D. Eberlein, T. J. Wertenbaker, Carl Bridenbaugh, and Talbot Hamlin.

Opposed theories are presented and evaluations offered forthrightly or tentatively as the situation justifies. With the most commendable honesty he reveals the working of his mind and stimulates the reader to use his own critical judgment.

(Continued on page 148)

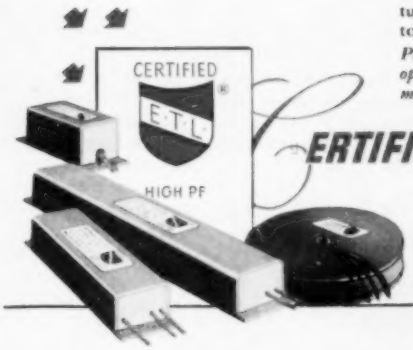
To get efficient fluorescent lighting ... insist on *This Shield on your ballast*

There's more to satisfactory fluorescent lighting than lamps and a reflector. There's always a ballast in the fixture . . . and the way it performs determines whether you'll get *full lamp life, rated light output* and *satisfactory performance.*

Only CERTIFIED BALLASTS carry the shield that assures best lighting. That's because CERTIFIED BALLASTS are made to precise specifications, then tested by Electrical Testing Laboratories, Inc., which certifies they conform to these high standards.

There's no excuse for inefficient, unsatisfactory fluorescent lighting when CERTIFIED BALLASTS are available.

Be sure every fixture you get has CERTIFIED BALLASTS . . . the ones with the shield.



● Complete information on the types of CERTIFIED BALLASTS available from each participating manufacturer may be obtained from Electrical Testing Laboratories, Inc., East End Ave. at 79th St., New York, N. Y. *Participation in the CERTIFIED BALLAST program is open to any manufacturer who complies with the requirements of CERTIFIED BALLAST MANUFACTURERS.*

CERTIFIED BALLAST MANUFACTURERS

Makers of Certified Ballasts for Fluorescent Lighting

2116 KEITH BLDG., CLEVELAND 15, OHIO

B.F.Goodrich

Rubber Tile *it's comfortable...naturally*

B. F. Goodrich Rubber Tile, because of its *Natural-Resiliency*, provides a really *comfortable* walking surface. That's one reason why B. F. Goodrich Rubber Tile is top choice for stores, offices, commercial and professional buildings, where foot traffic is heavy.

There are, of course, other important reasons why B. F. Goodrich Rubber Tile is preferred: – its *Super-Density*, which eliminates dirt-catching pores and cuts maintenance costs; its glossy finish, which needs no waxing unless an extremely brilliant lustre is desired or foot traffic is unusually heavy; its broad range of rich colors and distinctive marbleized patterns.

Investigate the many benefits that B. F. Goodrich Rubber Tile offers your clients. See Sweet's Catalog or write: *Dept. P5, B. F. Goodrich Co., Flooring Division, Watertown 72, Mass.*

You can depend on B.F.Goodrich FLOORING PRODUCTS

RUBBER TILE • ASPHALT TILE • VINYL PLASTIC TILE • RUBBER COVE BASE • ACCESSORIES

REVIEWS

(Continued from page 146)

The whole work shows the results of sustained and orderly thinking directed toward the assemblage of an encyclopedic mass of information which is digested, codified, and brought to a concisely ordered pattern in which the large design is always apparent. The author has what amounts to a passion for the transmitting of knowledge, but the book *teaches* rather than *preaches*, carrying the reader willingly along with him, aided by nearly 500 informative and often excellent photographs, used to illustrate the 580 pages of meaty text.

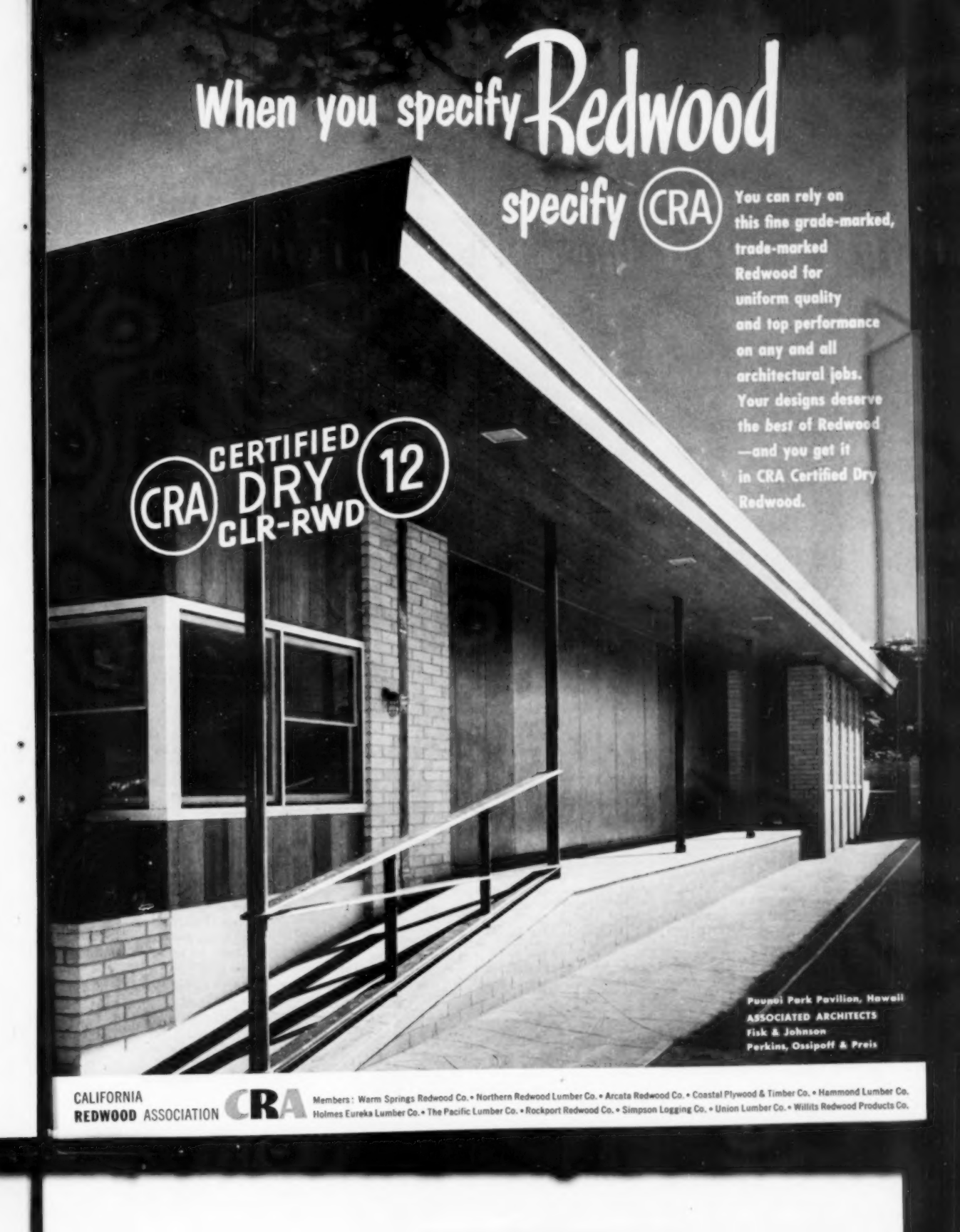
The author shows no reluctance in including footnotes with occasional definitions, fuller explanations, clarifying comments and diagrams for the aid of the non-specialist, so that his meaning becomes clear and there is an accumulative growth of understanding unmarred by the need for constant reference to a score of handbooks. But the volume is doubtless of greatest value to the initiated scholar in that it draws together the most advanced research of leading specialists in the architecture of separate buildings, the regions and periods discussed. Voluminous reference notes are appended at the back of the book and a brief analytical bibliography is incorporated with each chapter.

Aside from discussing, interpreting, and evaluating a whole roster of the key buildings of the periods discussed, Professor Morrison goes into the problem of debated attributions to specific architects and the dating of separate parts of the construction by means of internal evidence, documentary or stylistic sources. The question as to whether the portico at famed Whitehall in Maryland is a part of the original building is settled and the dating of the early part of Philipse Manor Hall at Yonkers is satisfactorily deduced. The knotty problem of the Foster-Hutchinson House in Boston—whether it is, by a half century, the *first Georgian building in America*—and the likelihood of its having been designed by no less a master than Inigo Jones are provocatively explored.

These are but a few of the significant issues raised throughout the book. Professor Morrison's answers, whether direct or qualified, will challenge the scholar's closest attention and lead to absorbing and continued reexamination. It is extremely gratifying to encounter a book so long needed and find it meets that need in so commendable a way.

JAMES GROTE VAN DERPOOL
Avery Library
Columbia University
New York, N.Y.

out of school


When you specify Redwood
specify CRA
You can rely on this fine grade-marked, trade-marked Redwood for uniform quality and top performance on any and all architectural jobs. Your designs deserve the best of Redwood —and you get it in CRA Certified Dry Redwood.
CRA CERTIFIED DRY 12 CLR-RWD
Puuhoi Park Pavilion, Hawaii
ASSOCIATED ARCHITECTS
Fisk & Johnson
Perkins, Ossipoff & Preis
CALIFORNIA REDWOOD ASSOCIATION
CRA
Members: Warm Springs Redwood Co. • Northern Redwood Lumber Co. • Arcata Redwood Co. • Coastal Plywood & Timber Co. • Hammond Lumber Co. Holmes Eureka Lumber Co. • The Pacific Lumber Co. • Rockport Redwood Co. • Simpson Logging Co. • Union Lumber Co. • Willits Redwood Products Co.

out of school

by Carl Feiss

The other day I received from Alec MacLaurin, a member of the staff of the Housing Authority of the City of Baltimore, a commentary on Prof. John Knox Shear's exposition of the Carnegie Plan, which was published in January 1952 P/A. MacLaurin has written such an interesting addendum to Professor Shear's article that I thought it was worth publishing in its entirety. Professor Shear's article has aroused a good deal of interest, and I am happy to see that this column is serving as a vehicle for discussions on modern curriculum building. At present, there is apparently no other place where students, faculty members, and practicing architects can express their pent-up ideas and emotions on architectural education—and I hope that more of my readers will feel welcome to use this column as a forum.

I am anxious to give every school in the country an opportunity to tell its story, if it so desires. MacLaurin's article, while including commentary on the Carnegie teaching system, has broader implications which concern all types of training programs. Here's what MacLaurin has to say:

●

Dear Carl: As an old pupil of yours, and as a former teacher of Architecture and City Planning, I have been reading your OUT OF SCHOOL columns regularly, with the greatest interest. They are very stimulating.

I have just read Professor Shear's account of the Carnegie Plan of Professional Education in Architecture, in the January issue. Like many readers, I am sure, I read Professor Shear's account with particular satisfaction, because, if you will bear with us, "it is just what we have been saying all along."

These ideas, in one form or another, are taking root in the architectural schools all over America today, and have been doing so for a number of years. The "fountainhead," if we can single out any one man, was probably Walter Gropius, in his writings on the teaching of design and in his work at the Bauhaus. Now Carnegie is doing what so many of us, here in America, have talked about—actually putting these ideas into practice.

I taught Architecture and City Planning for four years at the University of Washington, in Seattle. Ideas of this kind were not infrequently discussed at staff meetings during my stay there, and some attempts were made, on a limited scale, to put the ideas to practical application. When I left the school, in 1948, a group of young architects in Seattle, many of them contemporaries of mine, asked me to talk to them on the subject of architectural education. Among the group, as I remember it, were Vic Steinbrueck, Paul Kirk, Jim Chiarelli, Larry Waldron, Fred Bassetti, John Morse, Jim Savery, Bob Dietz, Ron Wilson, and a number of others, many of whom have had their work appear in P/A and elsewhere, much to the credit of their Alma Mater.

In my talk on architectural education to this group, I deplored the "blind corridor" organization of the typical old-school curriculum, its piling on of unusable facts at the wrong time, and so forth; and I projected the idea of a one-course, problem-solving approach in the teaching of architecture, in which the presentation of specifics would be related directly to the central design problem on the drafting board. It soon developed, even in this small group, that this was just about exactly what we *all* had "been saying right along." My talk became a full-fledged bull session which lasted all evening and ended, if I recall, at the Rathskeller. It was a valuable evening. Together, we developed a philosophy and a program for archi-

(Continued on page 158)

in Hawaii too...

CABOT'S WATERPROOFINGS KEEP WATER OUT

Architect: Alfred Preis, Honolulu — *ILWU Building, Honolulu. Waterproofed with CABOT'S CLEAR CEMENT WATERPROOFING*

Cabot's Waterproofings effectively seal all masonry surfaces even under Hawaii's tropical downpour.

● For Red Brick
Specify ***Cabot's Clear Brick Waterproofing*** for red brick and dark colored masonry. Provides a long-lasting moisture-resistant seal. Prevents water damage to masonry. Keeps surfaces clean. Prevents unsightly efflorescence.

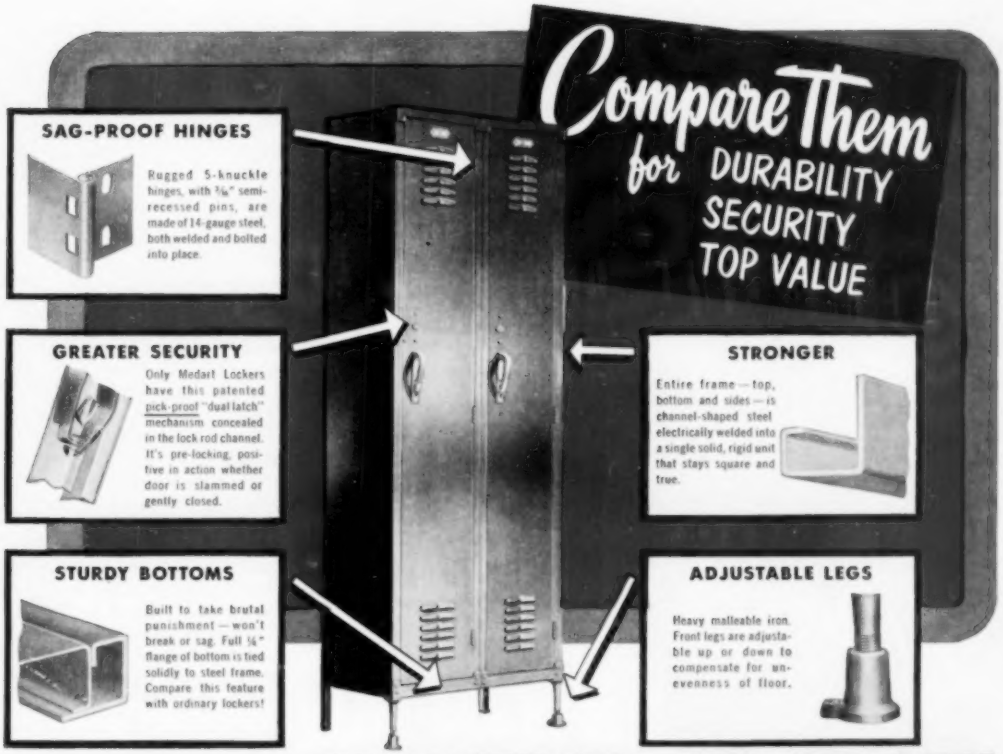
● For Cement and Stucco
Specify ***Cabot's Clear Cement Waterproofing*** for all light colored masonry above grade. Repels moisture. Protects against damage from freezing and thawing.

● For Foundations
Specify ***Cabot's Foundation Coating*** for all *below grade* masonry. Fills and seals the pores with a black, bituminous, elastic coating that keeps cellars dry, prevents crumbling.

Free Samples! Write today for full information about Cabot's Waterproofings.

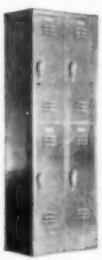
528 Oliver Bldg., Boston 9, Mass.

SAMUEL CABOT Inc.


Compare Them
for DURABILITY
SECURITY
TOP VALUE
SAG-PROOF HINGES
Rugged 5-knuckle hinges, with 3/16" semi-recessed pins, are made of 14-gauge steel, both welded and bolted into place.
GREATER SECURITY
Only Medart Lockers have this patented pick-proof "dual latch" mechanism concealed in the lock rod channel. It's pre-locking, positive in action whether door is slammed or gently closed.
STURDY BOTTOMS
Built to take brutal punishment — won't break or sag. Full ¼" flange of bottom is tied solidly to steel frame. Compare this feature with ordinary lockers!
STRONGER
Entire frame — top, bottom and sides — is channel-shaped steel electrically welded into a single solid, rigid unit that stays square and true.
ADJUSTABLE LEGS
Heavy malleable iron. Front legs are adjustable up or down to compensate for unevenness of floor.

MEDART

STEEL LOCKERS



MEDART LOCKERS are built in all standard types and sizes, both recessed and free-standing.

BASKET SHELVING sturdy and very rugged, both permanent and portable, in many sizes is built by Medart.

A better constructed, stronger, more serviceable locker can't be bought! More than that, because Medart originated virtually every practical feature used in modern steel lockers, Medart builds the locker that includes them *all* — not just those above, but many more!

By actual comparison you'll find the skillful engineering, best quality metals and precision manufacture in Medart Lockers are a better paying long-term investment in extra years of service, far less maintenance, appearance that stays new indefinitely, and thoroughly dependable tamper-proof protection.

Medart offers 80 years of engineering experience to help analyze and solve the most complicated locker problem. No matter how modest your budget, Medart Lockers give you more for the money!

Ask for Catalog

SEE OUR CATALOG IN SWEET'S

FRED MEDART PRODUCTS, INC. 3576 DE KALB STREET ST. LOUIS 18, MISSOURI

World's Only Complete Single Source For Gymnasium Equipment

Telescopic Gym Seats | Lockers & Wire Basket Shelving | Lockerobes & Grade-Robes | Basketball Backstops | Physical Fitness Apparatus | Basketball & Football Scoreboards | Physical Therapy Equipment

There's a Worthwhile difference in

Erie PORCELAIN ENAMEL and SERVICE

THE SOUTH EAST FURNITURE COMPANY

SUGAR HOUSE • 2144 SOUTH 11TH EAST

SALT LAKE CITY, UTAH

Erie Enameling Company
Erie, Pennsylvania

Attention: Manager

Gentlemen:

We are writing to commend you on the fine job done for our company in our modernizing program.

Of all the extensive work done in our store, your concern has accomplished a job with the least amount of difficulty and trouble.

We are greatly pleased with the beautiful effect of your product, the manner in which it was installed, and the fine cooperation rendered. The service was exceptional.

It is a pleasure to deal with companies of your calibre, and we want you to accept our sincere appreciation.

Very truly yours,

THE SOUTH EAST FURNITURE COMPANY

J. Gordon Sorenson
Secretary-Treasurer

When *one* organization can take over *every* phase of engineering, producing, and erecting porcelain enamel with the results reproduced above . . . there must be a "worthwhile" difference. Architects can safely place full responsibility with ERIE for the complete job . . . now guaranteed in writing.

Write for further information and See Us in Sweet's!

THE Erie ENAMELING COMPANY

1402 W. 20TH ST. ERIE, PENNA.

ENGINEERS • MANUFACTURERS • ERECTORS

Architectural Porcelain Enamel

out of school

(Continued from page 150)

tectural education which corresponded, in many essentials, to Professor Shear's plan at Carnegie.

I tell you all this, not with the intention of minimizing the accomplishments at Carnegie, which are very real, but rather because I am sure my experience in this connection is the type of experience that has been shared by many faculty members and students in schools of architecture throughout the country, and might serve, therefore, as somewhat of a representative grass-roots sample of nationwide rumblings to the same general effect as Professor Shear's.

I believe that Professor Shear's statement, despite space limitations, is a very able presentation of the principles involved, and gives one every encouragement to believe that the principles are being effectively and creatively applied in the teaching of architecture at Carnegie. There are certain additional observations, however, which I feel should be made. It may be that Professor Shear would find himself in complete agreement with me in what I have to say below, and if so, I offer these comments simply as a little supplement to Professor Shear's excellent statement.

●

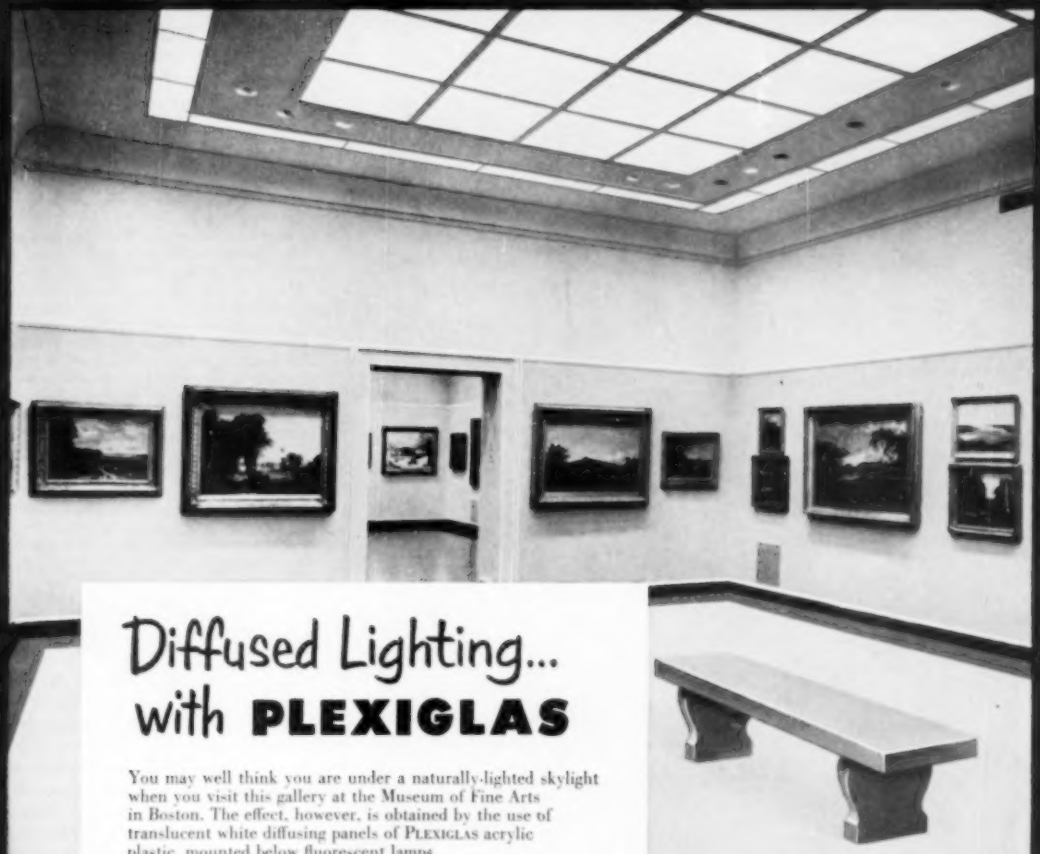
Let me begin by presenting quotations from Professor Shear's description of the Carnegie Plan, and a quotation from your brief comment upon it:

Quoting Professor Shear:

"The ideal curriculum in architecture would consist of one course in which the study of man, even in the precise terms of such specialized areas as psychology, literature, history, social economics, and philosophy, would be so completely integrated with the study of architecture that the student could not pursue the one without the other. In aiming at this ideal, we have created teaching teams which work together to achieve in the teaching of the whole of the subject of man and architecture what is impossible of achievement for the individual teacher who is necessarily limited by physical capacity, range of interest, and ability. Thus in each year, for individual teachers teaching separate subjects separately, we have introduced a team of teachers who, by planning together all subject matter and teaching methods, can assure a unified course; and who, by reason of their individual abilities, can assure depth in the penetration of the several specialized areas which make up the unified course. There is a separate teaching team for each of the five years and to insure effective cohesion between the years certain members of each team team belong also to the team of the following year."

"We believe that there is one effective test of what is fundamental knowledge; that is

(Continued on page 154)



Diffused Lighting... with **PLEXIGLAS**

You may well think you are under a naturally-lighted skylight when you visit this gallery at the Museum of Fine Arts in Boston. The effect, however, is obtained by the use of translucent white diffusing panels of PLEXIGLAS acrylic plastic, mounted below fluorescent lamps.

PLEXIGLAS luminous ceilings provide high quality lighting in eight new exhibition rooms at the Museum. The totally *diffused* illumination is free of shadows and reflected glare. The effect of daylight, the most desirable condition for human vision, is achieved and the disadvantages of depending upon natural light, with its constantly shifting values, are eliminated.

The even spread of artificial light across the PLEXIGLAS surfaces and the absence of visible lighting fixtures make the luminous ceilings architecturally appealing. Higher light intensity and full color values for the paintings are supplied by directional louvers and recessed spotlights.

PLEXIGLAS luminous ceilings satisfy the requirements of architects and lighting engineers for low brightness ratios, high illumination levels, excellent diffusion, and fixture-free appearance. In addition, the lightweight yet strong diffusers are removed easily and safely for cleaning and for access to the lighting source, resulting in a sustained high level of lighting performance.

If you have a lighting problem, investigate "daylighting" with a PLEXIGLAS luminous ceiling. We will be glad to send you technical details about the installation shown above. Write for them.

The Rohm & Haas exhibit at the Fourth International Lighting Exposition and Conference, May 6-9, Public Auditorium, Cleveland, Ohio, will be in Booth 153.

Special Galleries, Museum of Fine Arts, Boston, Massachusetts. Architects: Leland and Larsen, Boston. Illuminating engineers: Thompson Engineering Company, Boston. Photograph courtesy of General Electric Company.

CHEMICALS FOR INDUSTRY

ROHM & HAAS COMPANY

WASHINGTON SQUARE, PHILADELPHIA 5, PA.

Representatives in principal foreign countries

PLEXIGLAS *is a trademark, Reg. U.S. Pat. Off. and other principal countries in the Western Hemisphere.*

Canadian Distributor: *Crystal Glass & Plastics, Ltd., 130 Queen's Quay at Jarvis Street, Toronto, Ontario, Canada.*

FIAT
TOILET COMPARTMENTS NOW AVAILABLE
CHECK FIAT
DELIVERY
PRICE
QUALITY
For over 25 years FIAT, America's largest manufacturer of prefabricated shower cabinets, has been making quality metal toilet compartments for school, hospital, industrial and institutional use. There is a FIAT toilet compartment that suits your purpose—available now with assurance of prompt delivery. FIAT is unsurpassed in quality, competitive in price.
QUALITY CONSTRUCTION
TOILET COMPARTMENTS
DRESSING COMPARTMENTS
HOSPITAL CUBICLES
Made of stretcher leveled furniture steel . . . cold rolled or bonderized. Flush construction with laminated filler cemented in place under pressure. All compartments are sealed with a prime coat and finished with two coats of baked-on synthetic enamel. Hardware and connections supplied.
See Sweet's 22b Fi Architectural
MADE BY
FIAT
FIRST IN SHOWERS
PROMPT SHIPMENT
See your FIAT representative, or write to the FIAT plant nearest you. Consult us regarding your problems—we shall be glad to quote on Toilet Compartment or Dressing Compartment requirements.
FIAT METAL MANUFACTURING COMPANY
THREE COMPLETE PLANTS—ECONOMY • CONVENIENCE • SERVICE
Long Island City 1, New York
Franklin Park, Ill. (Chicago Suburb)
Los Angeles 33, California
In Canada: FIAT COMPARTMENTS are made by Porcelain and Metal Products, Ltd., Orillia, Ontario

out of school

(Continued from page 152)

whether or not it is useful in later learning. In turn we believe that the best test of usefulness of learning is use. Thus we have been concerned on the one hand with teaching only those fundamentals useful in later learning and on the other hand with insuring our students repeated opportunities to use those fundamentals already learned in situations which point up the need for learning still others. In carrying this out we have taken great care that each educational experience should do three things: (a) allow full examination of a new principle; (b) afford an opportunity to use previous learning; (c) serve to prepare the student for subsequent learning."

Quoting Schoolmaster Feiss:

"I am very much encouraged, because what is beginning to show up is a method of undergraduate architectural training which may be proved sufficiently sound as a method to survive faculty changes and the impact of the prima donnas. In fact, with such systems it may be possible to successfully control the prima donnas and convert them into useful teachers as well as drawing cards."

●

I am aware that these quotations, ripped out of context, cannot be presented fairly as a summary of Professor Shear's statement, nor as a complete exposition of your views, Carl, on the particular point involved. However, they may serve to refresh the reader's memory as to the salient features of the Carnegie Plan, and also, in the case of the last quotation, to demonstrate one person's reaction to Professor Shear's description of the plan, which I believe to be germane to the discussion which follows. While the observations which I am making below are made more upon the general drift of Professor Shear's complete statement, my observations are perhaps somewhat focused upon the ideas expressed in these quotations.

On "Integrating" the Social Sciences and the Humanities

As I understand Professor Shear's statement, he is suggesting that a team of teachers from various fields will be able to teach the student of architecture ascending and architecturally demonstrable lessons illustrating the "facts and principles" of man and his needs in society, and that such lessons will build up (through carefully chosen design problems on the board), if not to a complete understanding of man and his needs in society, at least to an open curiosity and a correct orientation toward this end. Professor Shear rightly suggests this as an ideal, rather than as a readily attainable end. But what troubles me more is that Professor Shear

(Continued on page 158)

Graduate to Tile-Tex Quality

...and get more economical floors!

Look into Tile-Tex*...the *quality* Asphalt Tile.

It's the tile that combines decorative beauty, better light reflection and extra durability with low initial cost, minimum maintenance and long, long service life. The tile that *school boards* like!

Take your pick of rich Tile-Tex colors from 28 plain or marbleized beauties.

Tile-at-a-time installation...plus a wide range of sizes and your choice of custom-made inserts...will enable you to create just about any designs you wish. These designs can be plain, decorative or functional. And you'll find it doesn't take long to install the floors either.

And talk about *wear-resistance!* It's common practice for Tile-Tex floors to stand up under the heaviest traffic for 20 years...without showing wear.

Tile-Tex Asphalt floors take the problem out of *cleaning*, too. All it takes is sweeping to remove loose dirt...periodic washing. Occasional water-waxing will help keep colors sharp.

Get in touch with your local Tile-Tex Flooring Contractor for samples and complete information on our design counsel and floor layout service.

You'll find him listed under "Floors" in the classified pages of your telephone directory. Or, write to: THE TILE-TEX DIVISION, *The Flintkote Company, 1234 McKinley Street, Chicago Heights, Illinois.*

Tile-Tex
ASPHALT
FLOORS AND WALLS

The Flintkote Company of Canada, Ltd., 30th Street, Long Branch, Toronto, Canada.

*Registered Trademark, The Flintkote Company

"Who said-
'A rose by any
name would
smell as
sweet'?"

"Shakespeare.
But he'd never
have said it
if he'd been
an architect"

Swapping sentences for steel, epigrams for equipment, Shakespeare as an architect, would soon learn that names like Edwards do count. He'd find that while a rose under any name might smell sweet, equipment can go mighty sour unless its maker's name spells dependability. He'd know that for over 80 years Edwards equipment has been so reliable, trouble-free, efficient an architect can specify . . . and forget it. That's another reason why, when *you* choose signaling equipment, it pays to remember Edwards.

EDWARDS®

World's Most Reliable Time, Communication and Protection Products For Schools, Hospitals, Industry and Homes.

Specify Edwards and Be Sure

America's schools run more smoothly . . . America's school children are better protected thanks to Edwards.

Edwards Automatic Clock and Program Control Systems, models of precision engineering, regulate school traffic with split-second accuracy. This ingenious system requires no master clock, no mercury pendulums, rectifiers, condensers or radio tubes. Built around the famous dual-motored Telechron movement, Edwards Clocks are synchronized to ever accurate incoming alternating current . . . one or a hundred timepieces keep perfect time together. Virtually error-free, they run for years without costly servicing.

• • •

Last word in safety, first in beauty are Edwards Fire Alarms. Trim, smart, functional they hug the wall with only 1⅞" projection . . . operate simply, easily with foolproof dependability. No chance of human failure . . . no chance of non-alarm through haste or panic.

For further information, write Dept. P-5, Edwards Company, Inc., Norwalk, Connecticut

Using Copper wisely in Building Design and Construction

Arthur T. Vanderbilt Hall, new $5,000,000 law center for New York University, faces historic Washington Square in downtown New York City. Architect: Eggers and Higgins. General Contractor: John Lowry, Inc.; Roofer: Zenith Roofing and Sheet Metal Co., Brooklyn, New York.

Roofs that last–cost less

This handsome shelter for legal learning, at New York University, will meet the double test of time and minimum maintenance cost.

A time-tested material, needing little care, was specified for the roof. Natural choice was ANACONDA Sheet Copper–an ageless material unsurpassed for durability when correctly installed.

The roof of Vanderbilt Hall has an 8" pitch and is constructed of poured concrete. The roof covering is copper of batten seam design. The copper pans were formed from 20-oz. weight sheets and the batten covers, ridges and gravel stops for the flat roof areas are all of 16-oz. copper. The built-in gutters are lined with 20-oz. cornice temper copper with expansion joints between downspouts.

When roofing must last, ANACONDA Sheet Copper costs less. Good design and proper application insure its enduring service. The use of copper in building construction is currently under regulations and restrictions issued by the National Production Authority, but there are no restrictions against planning for the future. We will be glad to help you in solving sheet metal problems. Don't hesitate to write The American Brass Company, Waterbury 20, Connecticut. In Canada: Anaconda American Brass Ltd., New Toronto, Ontario.

for better sheet metal work . . . . . use ANACONDA® COPPER

out of school

(Continued from page 154)

also seems to be giving the impression that he is proposing to set his team of teachers to the task of reducing the huge, complicated, unmanageable problems of man and his needs in society to such a "school" set of facts and principles, suited to such a set of graded lessons, and that he sees no dangers in their attempting to do so. These impressions may be due to a failure on my part, or may arise simply as a result of the limitations of space imposed upon Professor Shear. A more complete statement would allow for elaborations and qualifications not possible within the confines of a few pages.

I feel that Professor Shear would agree with me that the world of ideas (and I am talking here for the moment only about those ideas coming from the social sciences and the humanities) with which the architect and the architectural student must deal in analyzing and solving an architectural problem, is not a single, ordered system of known and accepted facts and principles, so composed that each little drawer of learning could be opened and its contents displayed at the proper place (as the student's curiosity is appropriately aroused), and then convincingly illustrated in the solution of graded problems on the drafting board.

There are biological, physiological, and anatomic facts, to be sure, about which the team of specialists might be able to come to pretty common agreement. I can see that these facts from the natural sciences might lend themselves in a rather reassuring way to translation into architectural terms as to size, shape, arrangement, color, etc. But the "facts" which come from our social sciences, alas, and from the humanities, are not as easy to handle. Man in society—social man—is another and exceedingly difficult type of problem. And yet Professor Shear is right in saying that man in society is at the very center of almost every architectural problem.

As a body of human knowledge, and as a broad area of investigation, the social sciences and the humanities have very few clear, coherent, uncontested answers to give to the types of questions that architects and planners should ask. In many places, the answers are incomplete, confused, and cryptic; in some they are clear, numerous, and sharply conflicting; in other areas the answers are loud and single-minded but, unfortunately, incorrect; in many other important areas, there are no answers at all worth talking about.[1] In a few areas, it is true, the answers may be middling to good, or even excellent, but they are certainly not the final answers. To add to the difficulties facing the teaching team, the structural and functional relationships existing between the parts of this matrix of ideas are such that one's degree of understanding of a single part usually depends in large measure upon one's grasp of the whole. Furthermore, the countless threads of affinity and dependence running back and forth throughout this whole area of human understanding, render it exceedingly difficult to extract nice little "Lessons of Life," little "Lessons of Man in Society," numbered 1, 2, 3, which are susceptible of demonstration on a drafting board to anyone (much less, with all due respects, to a sophomore or junior, and within a matter of weeks).

[1] *For a splendid list and discussion of many unanswered questions see, for instance, "Social Research as a Tool for Community Planning" by Catherine Bauer and "Sociopsychological Problems in Housing Design" by Robert Woods Kennedy. These two papers constitute chapters 10 and 11 in "Social Pressures in Informal Groups" by Festinger, Schachter, and Back (Harper & Brothers, 1950).*

For a superb analysis of the failure of the social sciences to address themselves to the problems of contemporary life, see "Knowledge for What?" by R. S. Lynd, Princeton University Press, 1946. This book is much too little known and too little read.

(Continued on page 160)

Why America's Foremost Architects Specify

HILLYARD FLOOR TREATMENTS

*Terrazzo lobby, Rice Field House. Products: Hillyard TERRAZZINE for slow curing hardness; ONEX-SEAL for a safe lasting finish.

Architects: Milton McGinty, Walter P. Moore, Lloyd and Morgan, Houston, Texas.

This attractive floor, and thousands like it in schools, hospitals, institutions, reflects the intelligent planning of outstanding architects—with the best use of modern Hillyard products—and the guidance of the Hillyard floor expert. Hillyard Care, designed to aid architects from construction stages through to finished beauty, can do an outstanding job for you! In *any* building you plan, Specify Hillyard.

Write for the name of the Hillyard Maintaineer near you for free help with any floor problem. AIA "specs" free on request.

Some Famous New
Hillyard-specified installations

- Wyoming's Memorial Stadium, Laramie, Wyo. *Arch. Porter and Bradley*
- Sacred Heart Hospital (addition) Spokane, Wash. *Arch. G. Albin Pehrson & Associates*
- Pius XI High School, Milwaukee, Wis. *Arch. Mark F. Pfaller*
- Euclid High School, Euclid, Ohio *Arch. Fulton, Krinsky & Dela Matte*
- Congregational Church, San Diego, Calif. *Arch. Walter C. See*
- Mission of Our Lady of Mercy, Chicago, Illinois *Arch. Barry and Kay*
- Alamo Stadium, San Antonio, Texas *Arch. Phelps, Dewees, Simmons*
- Barrington Illinois High School Barrington, Illinois *Arch. Perkins and Will*

FLOOR HILLYARD TREATMENTS

St. Joseph, Missouri

SEE OUR CATALOG IN SWEET'S

Branches in Principal Cities

REINFORCED CONCRETE FLOORS WITHOUT FORMS

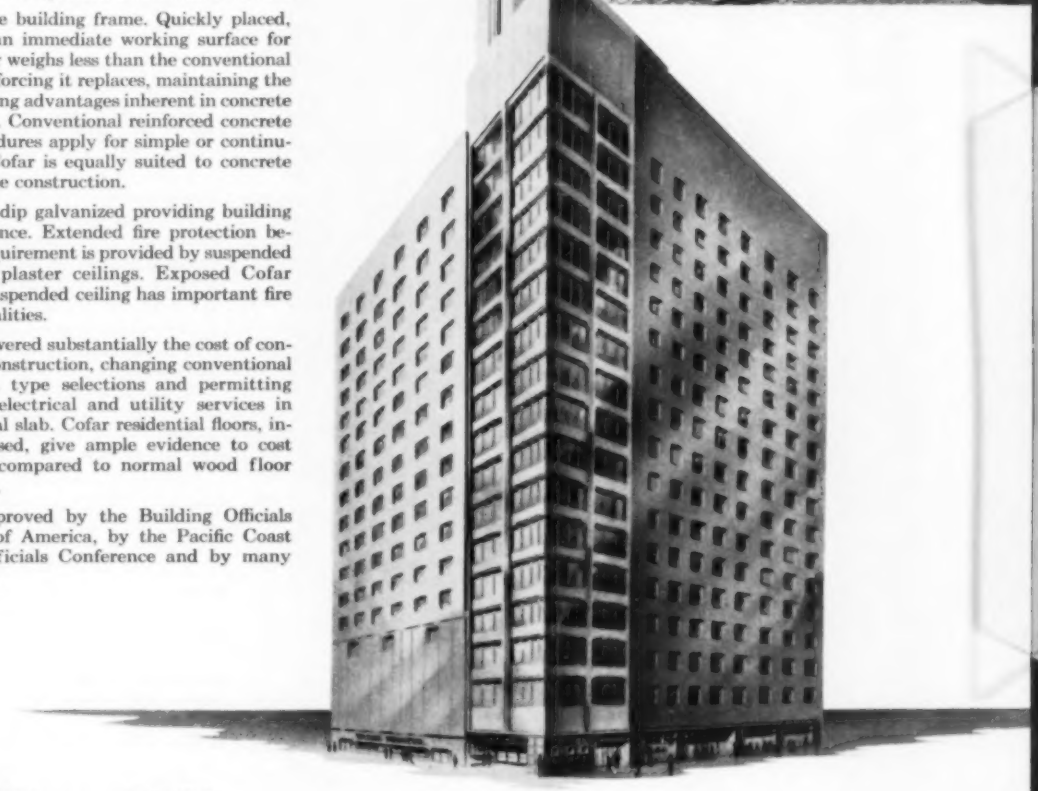
Sounds unbelievable . . . but Cofar did it. In one manufactured product, the costliest element of reinforced concrete construction—wood forms—and all of the conventional positive re-bars were eliminated. Cofar, the reinforcement that forms, is a product of extremely high strength flat rolled steel which performs this dual function.

Cofar fits the building frame. Quickly placed, it provides an immediate working surface for trades. Cofar weighs less than the conventional positive reinforcing it replaces, maintaining the full steel saving advantages inherent in concrete construction. Conventional reinforced concrete design procedures apply for simple or continuous spans. Cofar is equally suited to concrete or steel frame construction.

Cofar is hot-dip galvanized providing building life permanence. Extended fire protection beyond any requirement is provided by suspended lightweight plaster ceilings. Exposed Cofar without a suspended ceiling has important fire resistant qualities.

Cofar has lowered substantially the cost of concrete floor construction, changing conventional construction type selections and permitting economical electrical and utility services in the structural slab. Cofar residential floors, increasingly used, give ample evidence to cost advantages compared to normal wood floor construction.

Cofar is approved by the Building Officials Conference of America, by the Pacific Coast Building Officials Conference and by many major cities.

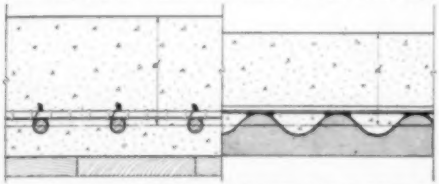


Conventional Slab

Positive and temperature bars eliminated with COFAR construction.

Cofar Slab

COFAR slab thickness reduced because of less dead weight.



Forms eliminated with COFAR construction.

Concrete below reinforcement eliminated.

Comparative Cross Sections of Conventional and COFAR Concrete Slabs.

Corrigan Tower Building, Dallas, Texas
Wyatt C. Hedrick, Architect
J. W. Bateson, General Contractor
Tom L. Harpster, Steel Erectors

For complete technical or general information, advice on application and design, review of COFAR designs, estimates and costs for any COFAR project, write: Dept. 10-4

GRANCO STEEL PRODUCTS CO.
(Subsidiary of Granite City Steel Co.)
Granite City, Illinois

POWERSTAT *Dimmers* PROVIDE BIG TIME LIGHTING CONTROL ON A SMALL TIME BUDGET

D1000R

D5000

Modern light dimming equipment need not be expensive. This was conclusively demonstrated by Lawrence Voss, a member of the faculty at Southern Illinois University, when he built a 25,000 watt, preset, proportional dimming, completely flexible, portable switchboard at a materials cost of approximately $1,200. Master dimming is achieved by four 5,000 watt POWERSTAT Dimmers. The flexibility, the consistent performance, the unusual economy of POWERSTAT Dimming Equipment put big time lighting control within the reach of very limited budgets.

THE SUPERIOR ELECTRIC CO.
BRISTOL, CONNECTICUT

SEND FOR COMPLETE INFORMATION ON POWERSTAT LIGHT DIMMING EQUIPMENT
Write: 4052 DEMERS AVE., BRISTOL, CONN.

☐ Story with pictures and drawings of switchboard Mr. Voss built.

The following bulletins on POWERSTAT light dimming equipment are also available without charge:

☐ Non-Interlocking Types ☐ Interlocking Types
☐ Packaged Assemblies ☐ Positioner Controls

NAME _____
ORGANIZATION _____
ADDRESS _____
CITY _____ ZONE _____ STATE _____

out of school

(Continued from page 158)

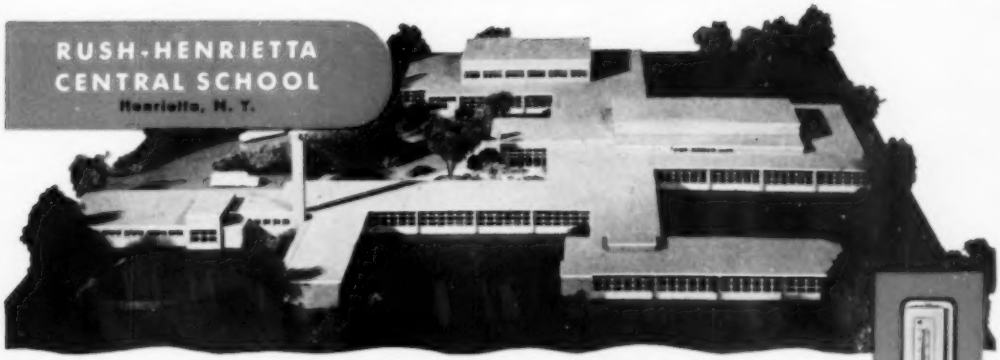
Obviously, of course, I am not accusing Professor Shear of saying that little "Lessons of Man in Society" can be dished up so handily in architectural problems for the undergraduate. I am quite sure that Professor Shear would say no such thing. I am suggesting, however, that the unwary reader might get some impressions here and there throughout the statement that Professor Shear is edging over to this view, or that his remarks might be so construed as to encourage such a belief.

As Professor Shear points out, we architects and planners have to deal constantly with such complex matters and the family, the church, the school, the neighborhood, the region, and so on. In such matters as these it can hardly be said, except upon little issues, that we are talking about schools of thought, theories, and concepts (balanced by other numerous and often opposing concepts).

To put all of this in terms in which it might be presented to the architectural student in one type of problem, let us say that, on the matter of the neighborhood, Professor A follows Clarence Arthur Perry, Professor B follows Lloyd Rodwin, Professor C follows Homer Hoyt and Walter Firey, Professor D is a human ecologist, Professor E likes Frank Lloyd Wright, Professor F is a Corbusier enthusiast, and Professor G has been reading the Goodman brothers (just to mention a few of the people that might be thought of as having something to say that has a bearing on the subject involved). And suppose, also, that Professors A to G constitute a teaching team. Under these circumstances (circumstances which are not at all unlikely), one would like Professor Shear to describe in greater detail just how, to what extent, and in what sense, he would get the teaching team together, and one would also like to have him define more closely to what extent and to what purpose, at other points, we might wish to insist that the teaching team remain apart.

I am certain that Professor Shear would agree with me that although a one-philosophy school and a one-philosophy teaching team might work, and might possibly be able to provide the little "Lessons of Man in Society," such an arrangement would be very bad from an educational standpoint. And yet it is an arrangement which, I am afraid, is all too likely to result from hurried attempts at integrated teaching programs. Professor A, the head of the department, gathers about him faculty members and specialists whose frame of reference and ideas fairly well conform to his. They thrash out minor differences in staff meetings, and present a solid intellectual front during class

(Continued on page 162)



Architects: ADE and TODD Rochester, N. Y. • Consulting Engineers: ROBSON & WOESE, Syracuse, N. Y.
Heating Contractor: W. A. McCORMICK, Rochester, N. Y.

POWERS
RADIANT HEATING CONTROL

—used in many prominent modern buildings

Here is one of the nation's prominent modern schools with a radiant heating system supplemented by mechanical ventilation —completely controlled by Powers.

For flexibility of adjustment and better control the temperature regulating system is divided into six zones.

Each Zone—is heated by circulated hot water regulated by a Powers MASTROL system which controls temperature of water in relation to outdoor weather.

Ventilation for each of the six zones is supplied by large unit ventilators controlled by a Powers duct thermostat operating Flowrite valves and dampers.

Auditorium is heated by a central fan ventilating system. **Gymnasium** is heated by two large unit ventilators. Both types of ventilation circulate room air except when rooms are occupied at which time outside air is proportioned to the load. Temperature in both of these spaces, as well as in the Locker Room, is regulated by various Powers controls.

Steam Boiler Control for Varying Loads Three oil-fired boilers here are regulated by a Powers No. 252 Pneumatic Pressure Regulator controlling three PE switches which cut in the right number of boilers required for the heating load.

Powers MASTROL System of Control is ideally suited for radiant heating. It has been widely used to control many types of forced hot water heating. Performance records show it unsurpassed for reliability. Maintenance cost is practically nil.

When problems of control for any type of heating or air conditioning arise, call Powers. Our more than sixty years of experience in supplying control for important buildings may be helpful to you.

(all)

Ceiling Coils before plastering

81 Powers Individual Room Thermostats here, control . . .

87 Powers NO-PAK Valves (packless, non-leaking type) which regulate heat in ceiling coils. Each room is provided with the temperature desired.

Powers MASTROL System of Control in each of 6 zones regulates the temperature of water circulated from steam heated hot water converters to various rooms. Temperature of water is maintained in direct relation to weather out-doors.

Powers FLOWRITE Control Valves Regulate steam to Hot Water Converters • Heating coils in Classroom Ventilators • Central Fan System in Auditorium • Large Unit Ventilators in Gymnasium.

Only a few of our many types of control for Radiant Heating are shown here.

OFFICES IN OVER 50 CITIES **THE POWERS REGULATOR COMPANY** SKOKIE ILLINOIS

Be sure of a

HEALTHIER HOME

WITH METALBESTOS GAS VENT

Every home — regardless of cost — should have the benefits of safer, more efficient gas venting.

Metalbestos' insulated double wall construction assures clean, fresh air — free of fumes and musty odors — throughout prolonged operation of gas appliances. It gives maximum protection to walls, draperies and furnishings against damage caused by moisture condensation.

Special precision-formed couplers make possible accurate, fast assembly — cut installation costs — and provide tightly sealed joints. All aluminum construction eliminates cracking and prevents deterioration from the corrosive effects of flue gases.

Specify Metalbestos — protect yourself against complaints or costly repairs due to improper venting — give your clients the finest in venting protection.

Send for
FREE VENTING MANUAL
This useful manual, "Venting of Gas Appliances," contains important rules and helpful tips on approved venting practices. No cost or obligation.
Write today to Dept. U.

METALBESTOS DIVISION
WILLIAM WALLACE COMPANY • BELMONT, CALIF.

out of school

(Continued from page 160)

hours. The result is a "happy family" faculty, but a student body forced to wear intellectual blinkers.

●

This is one problem we just didn't have under the old Beaux Arts system, and, parenthetically, it is not a problem which prevails in other university departments organized along conventional lines. Professors A, B, and C, under the conventional arrangement, aren't under so great a temptation to agree. They can contradict one another as much as they like, and continue to do so in front of the students. They even stand to gain in prestige, to some extent, by contradicting one another, since differences of opinion are usually honored as evidences of independent thought. Each professor goes ahead with his course, seeing things the way he sees them, and saying what he thinks, more or less. At least there is nothing in the nature of the organization of the curriculum or the teaching staff which prevents him from doing so. Old Professor X, bumbling along with his history course, can come out with his little "outrageous hypotheses," now and then, without being talked into line by a majority staff opinion, or without having to forsake his hypotheses for the practical advantages of joining to put over an integrated subject matter in a limited time.

It is true, the problems of qualification, analysis, weighting, discounting, and synthesis (though all terrific problems), are left pretty much to the student under the conventional arrangement. Nothing is predigested. Those of us who were brought up under the Beaux Arts system, or at the time the Beaux Arts system was falling apart, are very much aware of the conflicts and confusion, the poor timing and the unbalanced emphases, presented to us in the name of education.

On the other hand, in attempting to overcome these shortcomings of the conventional system, we cannot allow the impression to be gathered by the student that all of the old problems have been solved, that there is a New Dawning and that we, the architectural faculty, are its prophets. We products of the Beaux Arts system were perhaps somewhat confused, and that was bad and should be avoided insofar as possible, but at least it can be said that a large number of intellectual windows were left open. It wasn't a closed system of ideas, with all questions answered, and all authorities nodding their heads in unison.

This, after all, was one of the great values of the now-despised prima donnas of the Beaux

(Continued on page 164)

Holabird & Root & Burgee, *Architects*

MODERN DOOR CONTROL BY *LCN* · CLOSERS CONCEALED IN DOOR

THE NORTHERN TRUST COMPANY, CHICAGO, ILLINOIS

LCN CATALOG 11-E ON REQUEST OR SEE SWEET'S • LCN CLOSERS, INC., PRINCETON, ILLINOIS

Stainless Steel Sinks

BY ELKAY

NOW MEET EVERY BUILDING NEED!

21 SINGLE BOWL MODELS
—two styles in the following sizes:
30" • 42" • 48" • 54"
60" • 66" • 72" • 78"
84" • 90" • 96"

50 SIZES FROM STOCK

Fifty Different Sizes Available from Stock . . . 29 double bowl sizes, 21 single bowl sizes! Lustertone double bowl sizes, for example, start at 60"—there's a size for each 6" increment up to and including 144". Custom-built convenience can now be achieved at standard sink prices. *Many counter tops and return ends also available from stock.*

29 DOUBLE BOWL MODELS
—two styles in the following sizes:
60" • 66" • 72" • 78" • 84"
90" • 96" • 102" • 108"
114" • 120" • 126" • 132"
138 • 144"

NEW LOWERED PRICES

Reductions Up to 24.7%! The Demand for ELKAY Lustertone now at all-time high—economies from our greatly increased production enable us to make these significant cuts in prices. Write for the *new* Elkay Price List.*

FOR PACKAGE UNITS. Priced and designed to work with most standardized kitchens.

THE ONLY SINK GUARANTEED TO OUTLAST THE HOME

In the kitchen, Stainless Steel is best—and ELKAY Lustertone is recognized as the *finest* in Stainless Steel. It never needs upkeep, never deteriorates, need never be replaced. Specify *Lustertone* because the lifetime cost is lower!

USE ELKAY'S NEW "SIZE-TO-SUIT" SERVICE

Production is expanded—but not unlimited. Send your plans and specifications now and be sure requirements are satisfied. ELKAY "Size-to-Suit" Service now featured in full color ELKAY ads appearing in national consumer magazines. *Your clients know this service—plan to use it yourself!*

** New low prices effective May 5, 1952*

ELKAY Lustertone

See Sweet's—
24b / ELK in Architectural
7a / ELK in Builders

ELKAY MANUFACTURING COMPANY
1896 South 54th Avenue • Chicago 50, Illinois
The World's Oldest and Largest Manufacturer of Stainless Steel Sinks

out of school

(Continued from page 162)

Arts world. Your comment, Carl, tends to bear out my contention that Professor Shear gives some impressions that the kind of integration he is talking about is a rather thorough-going integration. The prima donnas often were iconoclasts who just would not be "integrated," and let us be thankful they wouldn't. Some of them paved the way for contemporary architecture, and, perhaps more important, many of them helped students to break through the smooth surface of accepted explanations about many things. Prima donnas have their value in any department, and I am grateful to those that helped me. Let's not be controlled by the prima donnas, but let's not entirely control them, either.

Where, How, and in What Sense Shall We Integrate?

I think integration is very necessary in the architectural curriculum, but I think that perhaps a closer definition is needed as to just exactly at what places in the curriculum, just how, and in what sense, this integration is to be attempted, and equally important, in what ways and in what areas the student's intellectual life very definitely must not be integrated.

In my view, when setting up a teaching plan such as the Carnegie Plan, it must be kept clearly in mind that architectural work involves two rather distinct processes (however much the two processes may overlap and run together in the working situation, and however unconscious the architect may be that these two processes are involved):

1. The assembly of available data, the analysis, interpretation, weighting, and evaluation of the data, and finally, a verbal statement of the problem, involving inevitably an implied solution broadly decided upon, *all in terms of human needs.*

2. The *technical solution* of the problem—the design on the drafting board, in terms of structure, materials, equipment, color, and so on.

The first of these processes, that of the analysis and interpretation of the human needs involved —the study of man in society, as Professor Shear phrases it—draws for its data upon the broad areas of knowledge covered by the natural sciences, the social sciences, and the humanities. This first process carries the work through to a verbal statement of the problem, which actually amounts to a solution in general terms. Once the problem is closely defined, certain basic philosophical and sociological decisions have been made.

The second process involves really only an implementing and carrying out of this solution

(Continued on page 166)

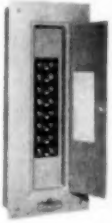
MODERN CIRCUIT PROTECTION and EXTRA COMFORT

for all types of Homes is provided by these FA products

FA Load Centers and Service Equipment with thermal-magnetic trip Add-On Circuit Breakers are ideal for residential use . . . available in 2 to 20 circuit assemblies.

FA SEPF Fuse-Type Service Equipment with safety-type FA Pulfuz-switch main disconnect and plug fuse connections is excellent also for use in homes. Available in 30, 60 or 100 ampere main connections and plug fuse branches. Also range circuits.

FA Main and Range Service Units provide fuse protection in a dead front, safety type unit and feature non-interchangeable FA Pulfuzswitches for main and range disconnects. Available in 60 and 100 ampere "series" and "parallel" main connections — 4 to 8 branches, with or without water heater circuit.



FA Type R Enclosed Cutouts are popular safety-type fuse boxes for homes and other similar size buildings. Furnished with 2 to 20 circuits.

Built-in FA electric Quikheters with built-in control switch or thermostat, supply heat that will quickly change a cold, shivery bathroom or other room into one that's warm and cozy — and at a small cost. Quick acting, odorless and noiseless in operation. Available in capacities of 1,000 to 3,000 watts. Separately mounted thermostic control available at extra cost.

They're as Modern as Tomorrow... these FA Load Centers, Service Equipment and Built-in Electric Quikheters.

Made specifically for use in homes — large and small — and other buildings, these sturdily built units embody all the latest features in design and construction.

They're safe, efficient, dependable, economical, long-lasting and will provide years of trouble-free service. Too, they are approved by the Underwriters' Laboratories, Inc.

The next time you design a residence or other small building, include FA Load Centers, Service Equipment and Electric Quikheters in your specifications.

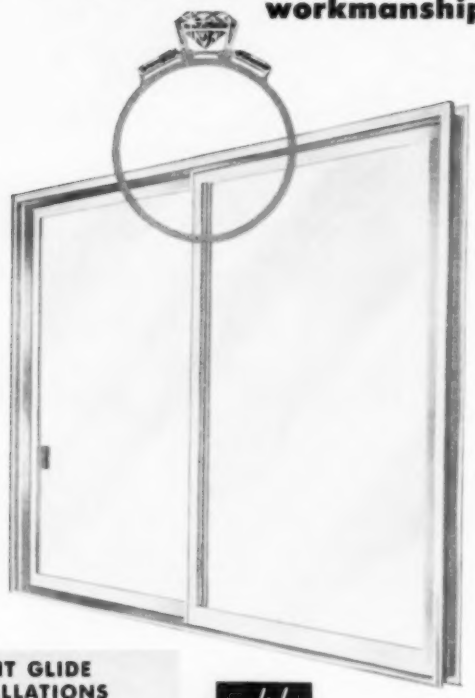
Your nearest FA representative, listed in Sweets, will be glad to give you complete information, or write to headquarters for bulletins.

Frank Adam Electric Co.

P. O. BOX 357 ST. LOUIS 3, MISSOURI

Makers of BUSDUCT • PANELBOARDS • SWITCHBOARDS • SERVICE EQUIPMENT • SAFETY SWITCHES • LOAD CENTERS • QUIKHETER

Ultimate... in fine workmanship...



RECENT GLIDE INSTALLATIONS

Richard A. Hoefer Residence
Bronxsville, N.Y.
(Pacesetter Home—1952—
House Beautiful)
Henry L. Eggers, A.I.A.

Paul R. Williams Residence
Los Angeles
Paul R. Williams, A.I.A.

Santa Monica, Calif., City College
Marsh, Smith & Powell, A.I.A.

Ambassador Hotel, Los Angeles
Paul R. Williams, A.I.A.
and Norman Bel Geddes

Anderson Hospital, Houston, Texas
Mackie & Kamrath, A.I.A.

Pioneers Memorial Hospital,
Brawley, Calif.
Walker, Kalionzes & Klingerman, A.I.A.

glide WINDOWS, INC.

glide **aluminum windows and doors with the sideway slide...**

GLIDE horizontal-sliding windows and doors are acknowledged the finest in the field. Precision-built of highest quality tempered aluminum alloy, GLIDE units provide the architect with utmost flexibility and freedom in design...Available for single or duo-glazing, equipped with hardware, and completely weather-stripped with resilient stainless steel.

In specifying GLIDE units for residential, commercial, or institutional installations... you assure your clients the best...bar none! Nationally distributed.

SWEET'S... 17a/GL

Write us for additional information.

7463 VARNA AVENUE, DEPT. PA
NORTH HOLLYWOOD, CALIF.

out of school

(Continued from page 164)

implied in the statement of the problem—a working out in concrete terms of the general decisions arrived at in the first process. This second process—the technical solution of the problem—draws for its data more upon the exact sciences. This data comes to the student of architecture in such courses as those in materials, construction, heating and ventilating, sanitation, and so on.

●

Now, it is my thesis that in those courses of the curriculum which bear specifically upon the technical solution of the problem, a high degree of integration of subject matter, and a high degree of co-ordination in its presentation, are both possible and highly desirable. On the other hand, it is my belief that in those courses which bear more upon the analysis and interpretation of the problem, especially courses in the social sciences and the humanities or courses whose subject matter draws largely from these fields, integration is possible and desirable only to a very limited degree.

It may be possible to a certain extent to integrate courses such as those in the social sciences, in the sense that the timing of the presentation of relevant though conflicting views, is integrated. Even this, however, seems highly doubtful. The relevant subject matter is so vast, so diverse, and so conflicting, and the time is so short. But such courses and such subject matter *very definitely should not be integrated in the sense that research and analysis, on the part of the student, within a "faculty-integrated" subject matter, will inevitably bring him up with the "school" solution,* which the various agreeing specialists will then nurse along to final perfection on the drafting board.

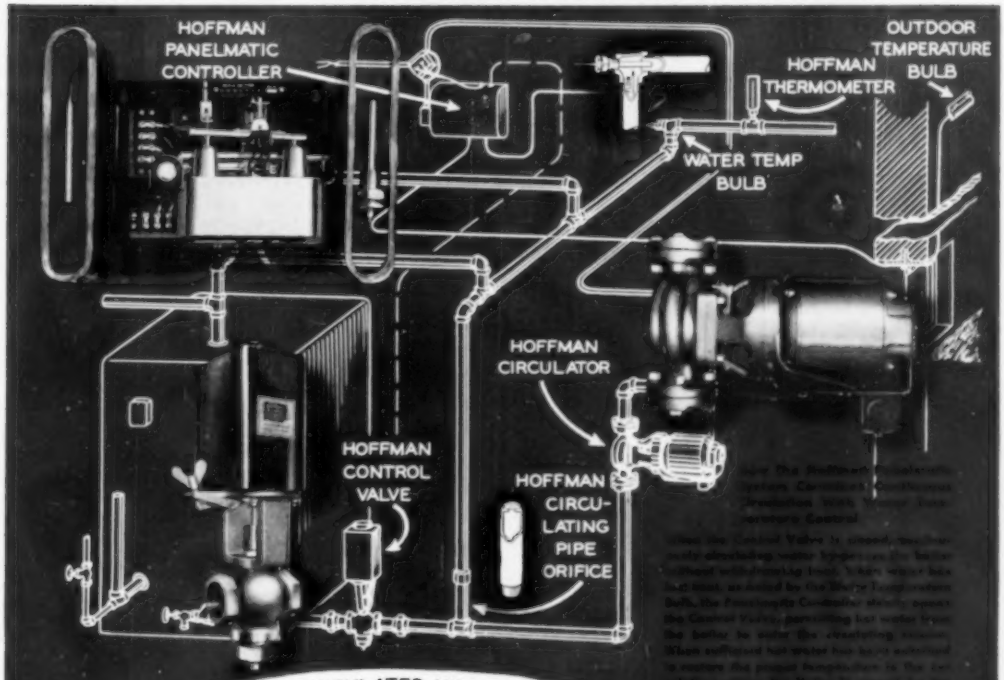
It is my view, on the contrary, that the specialists from various departments whose subject matter bears on the broad problem of man in society, should make a very careful point of *not* adhering to a single philosophy or view, of *not* being integrated in this sense, and of deliberately cultivating all of the alternate points of view all the way along the line, whatever their personal inclinations. They should search out "outrageous hypotheses" as well as explain the orthodox hypotheses. They should be breeders of ideas. They should make a point of agreeing openly that there is no "school" solution in these matters. In this area of investigation especially, the school should be an open forum.

Decisions and choices in matters pertaining to social man—those generally within the prov-

(Continued on page 168)

HOFFMAN PANELMATIC *Hot Water System Controls*

AUTOMATICALLY BALANCES WATER TEMPERATURE WITH WEATHER



CONTINUOUSLY CIRCULATED HOT WATER SYSTEM

Designed especially for AUTOMATIC HOT WATER

The Hoffman Panelmatic Controller is based on the fact that for every Outdoor Temperature there is a corresponding Supply-water Temperature, which must be *automatically maintained* in the heating units. The correct Supply-water Temperature, in the case of a panel heating system, or the output per sq. ft. EDR in the case of other forms of radiation, must be specified by the Architect or Engineer for *one Outdoor Temperature*. The Controller then *automatically* adjusts the Water Temperatures to balance any other outdoor conditions encountered. The following table illustrates several sets of conditions for a panel heating system.

Architect or Engineer to Specify			Factory Sets Controller		Controller Automatically Furnishes Supply Water at Temperatures Correct for Any Outdoor Temp. as Listed Below				
					Outdoor Temperature °F.				
Design Temp. °F.	Supply Water °F.	Room Temp. °F.	Scale No.	Supply Water °F. at Outdoor 32 °F.	−10	0	+10	+30	+50
					SUPPLY WATER TEMPERATURE °F.				
−10	150	70	11	108	150	140	130	110	90
0	150	70	13½	114	—	150	139	116	94
+10	140	70	14	115	—	—	140	117	94
−10	140	70	9	104	140	133	123	106	88
−10	160	70	13	113	160	147	137	115	92

When the outdoor temperature reaches 65°F., the Circulator automatically stops. The 65° factory setting was chosen because it is the basis for calculating degree days. If a different cut-out temperature is desired, it can be easily adjusted to individual requirements. Occasionally the actual heat loss differs from the calculated loss due perhaps to changes in construction. The Panelmatic Controller can be easily re-adjusted after installation according to simple, definite instructions furnished by the factory. Technical literature describing the Panelmatic System and sample specifications, gladly furnished on request.

PIONEERED BY HOFFMAN

HOFFMAN SPECIALTY COMPANY, Dept. B-4, 1001 York St., Indianapolis 7, Ind.

Ready to Install

WILEY FACTORY-ASSEMBLED RECESSED TROFFERS

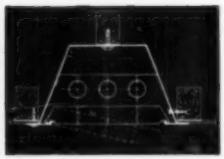
Wiley Troffers are factory assembled units . . . no separate channels, side flanges, caps, etc. to assemble on the job.

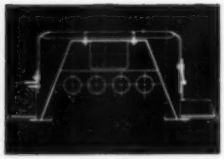
These troffers, clean and simple in design, and sturdily constructed, are 11½" wide for standard 12" width opening, accommodating either 2, 3 or 4 lamps, fluorescent or slimline, in a variety of lengths: 24", 36", 48", 60", 72" and 96". Only 6¾" headroom is needed.

Units may be erected individually, in continuous rows, side-by-side, or in patterns such as squares, rectangles, tee, ells, crosses, etc. and (or) combined with Wiley Troffer Adjustable or Fixed Lens Spots for accent lighting. Number of lamps, types of shielding — louvers or glass of various types may be added or interchanged without removing troffer from ceiling.

Welded ends assure squareness and rigidity. Abutting ends of connecting units (in continuous runs) form continuation of louvers to give effect of a single unit the entire length. Adjoining units are rigidly coupled by a simple "U"-sleeve. End flanges bolt on. Flat or "T"-bar flanges are optional. Plaster frames and saddles available.

To service — just raise shielding device, slide to either side and drop open to replace starters, tubes or to clean; unhook to remove completely. All wiring is instantly accessible by removing reflector. Socket straps "snap" in place without tools and Reflectors are interchangeable.





All Wiley Fixtures are approved by underwriters, have the I. B. E. W. label and all components are E. T. L. certified.

Careful packaging in sturdy, individual cartons eliminates shipment breakage. There's no time lost filing claims and waiting for replacement shipments.

District Engineers are available near you to lend assistance in installation plans and estimating costs. A few territories are open for qualified representatives.

For full information, write R. & W. Wiley, Inc., Dearborn at Bridge Street, Buffalo 7, N. Y. or see Sweet's Architectural Catalog. Member Fleur-O-Lier Mfgs. Ass'n.

out of school

(Continued from page 166)

ince of the social sciences and the humanities—must be placed more within the hands of the architectural student himself. He must not be crowded along chosen directions by an overconfident faculty. What we must be sure of is that the architectural student (and the architect after him) is aware of the fact that important choices of this kind are being made as the architectural problem is being analyzed and stated. Tacit sociological and philosophical assumptions, important hidden "of courses" must be routed out and examined. We must be sure that in making his choice, the student is aware of all of the alternatives and that his choice is an informed choice. These objectives will not be met, as I see it, in what I have called a one-philosophy, one-team, "happy family" school, where everything is so integrated that no doubts and no conflicting theories are allowed to creep in anywhere.

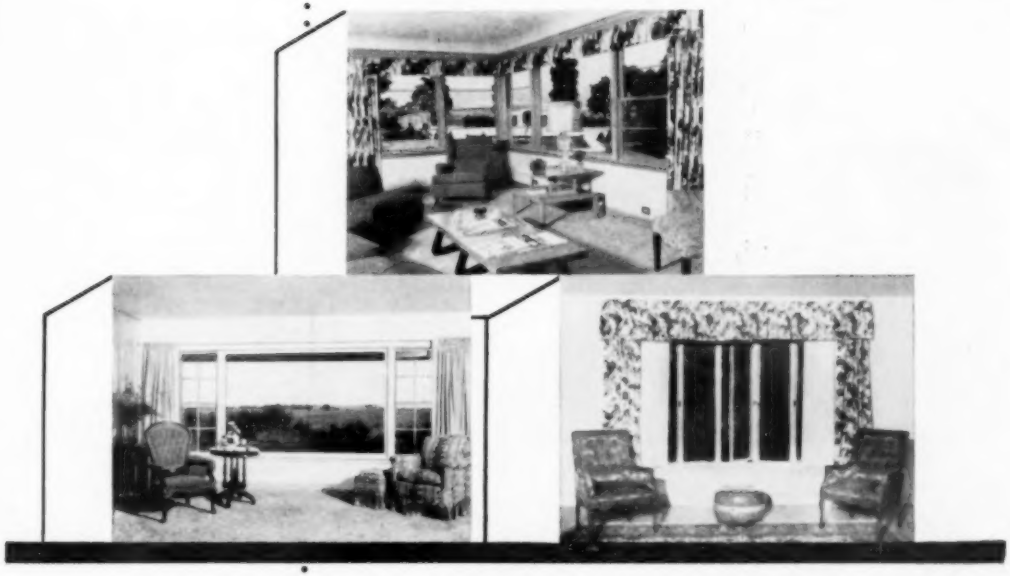
●

Here we may come back again to the matter of the prima donnas, and do greater justice, perhaps, to your comment, Carl. The prima donna must be controlled in a certain sense, of course, and I am sure that you would agree that the way to control him is not to set up a one-philosophy school. A one-philosophy school will either allow the prima donna to ride saddle, or it will gag him completely. The way to control the prima donna is to flood the situation with all of the relevant facts and ideas. His voice then becomes one in many, and under such circumstances, if his ideas win out with many students, then perhaps his ideas are good.

It is probable that much of this is in accord with Professor Shear's views, and that, as I have said, either I have failed to find these warnings or else space limitations prevented him from qualifying and enlarging upon many statements. I wish to repeat that these observations are in no sense presented in opposition to Professor Shear's statement. If the architectural schools really can integrate their courses on the technical level, while presenting a well-timed sequence of, let us say, brief panoramic summaries, on the level of the social sciences and the humanities, and in addition, present adequate summaries of statistics and facts where these are available on specific points—if they can reorganize and correlate the technical courses and still preserve the school as an open forum of ideas so far as man in society is concerned—they will have done very much indeed, much more than most other departments on the campus have been able to do. From all indications, Carnegie is on the way.

ALEC MACLAURIN

you can build REPUTATION, too with SILENTITE WINDOWS!



Window troubles do not enter the homes which are equipped with Curtis Silentite windows. Owners don't complain of windows that let in drafts or allow precious heat to leak out. There's no sticking—no rattling, and operation is easy—always. No wonder so many builders throughout the country put these wood windows *first* in preference.

No other window can duplicate the patented "floating" weatherstrip construction of Silentite double-hung windows—the special Curtis weather protection at head, meeting rail and sill. And no other casement has *all* the features which have made Curtis Silentite casements known as the most weathertight casements manufactured today.

Available in wide variety—and as completely pre-assembled units—Curtis Silentite windows cut installation time and assure complete owner satisfaction. Nationally advertised for more than twenty years, Silentite is America's best known window. It will help you maintain profits—and reputation, too. For more information, mail the coupon!

1865 CURTIS WOODWORK SILENTITE PAK-FIT the *Insulated* window

Curtis Companies Service Bureau
PA-5 Curtis Bldg., Clinton, Iowa

Gentlemen:
I want to know more about Curtis Silentite Windows. Please send me your free window booklet. I am ☐ Contractor, ☐ Architect, ☐ prospective home builder, ☐ student. (Please check above)

Name.....

Address.....

City.....*State*.....

it's the law

by Bernard Tomson

This column supplements material in chapters 1 and 2 of Tomson's Architectural and Engineering Law (Reinhold 1951).

The universality of architects' problems, *vis-a-vis* the client, the public, and the registration law in each State, has increasingly been impressed upon me. Particularly with respect to the registration law problems facing architects throughout the country, there is a crying need for the development of an integrated approach to the pooling of information, for the exchange of ideas, and for the development of a "uniform" statute. This should be initiated as soon as it can be arranged by a conference called to acquaint those struggling with the problem in each state that the difficulties are not local in character, but national: that the problems in California are the problems in Michigan; that the problems in Georgia are the problems in Wyoming; that the problems in Colorado are the problems in Oklahoma (*ad infinitum*).

In the past few months, I have spoken at state conventions in California, in Georgia, in Michigan, and at regional conferences in Oklahoma and in Colorado. In California, we discussed the necessity for a change in the California statute, the nature of the required change, and the timing. In Georgia, we discussed the legislation then impending before the legislature. In Michigan, we discussed the legislation already passed by the House and pending before the Senate—an amendment which would weaken the Michigan registration law (although permitting architects to become master builders). In Oklahoma, we discussed the amendment to the Act, which in 1949 had weakened a previously strong licensing act. In Colorado, we argued the merits, paragraph by paragraph, of a proposed revision of the law.

What was remarkable in each of these places, was the complete absence of knowledge of the problems current in other states, or even of problems in adjoining states. It is axiomatic that at least the exchange and pooling of information as to these problems, currently pressing, in each of these states would have been and would be helpful. When I addressed the architects at each of these conventions I made this point. Looking back now I feel it cannot be urged too strongly.

What disturbs me most is that changes in the registration laws do not necessarily show progress. Indeed, they often show the reverse. Although Wyoming, for the first time, now has a registration law, it is a "title" statute (limiting only the use of the title, "Architect"); Oklahoma's statute has been weakened; Michigan's statute is about to be weakened; Colorado's first draft of a new law has emasculating provisions and California is not anxious to raise the issue now. The only bright spot is Georgia, where a "title" statute has been replaced by a strong "practice" statute, prohibiting the *practice* of architecture to anyone other than registered architects, with no important exceptions other than "one- or two-family residences regardless of cost"—a com-

(Continued on page 172)

ALLAN FREDERICK GAUSMAN, FBI No. 2,443,052

Wanted by the FBI

Allan Frederick Gausman is wanted by the Federal Bureau of Investigation for the Interstate Transportation of a Stolen Motor Vehicle.

He has used many aliases, among which are: Charles S. Alves, Jack Blake, Paul Charbonnet; Alen Paul Douglas, Harlan C. Jepson, Arthur Jon Powell, Arthur William Powell, Warren Lee Scott and Lloyd Whalen.

Gausman in the past has sought and gained employment as a draftsman with various architectural firms. Investigation shows he has a limited speaking and working knowledge of this profession. In the past he has remained with a firm for a short time, has stolen blank checks from the firm, forged and passed them.

Gausman is described as follows: Age 30, born March 4, 1922, St. Paul, Minnesota; Height, 5'9"; Weight, 150 pounds; Build, medium; Hair, brown; Eyes, gray-blue, sometimes wears eyeglasses; Complexion, medium; Race, white; Nationality, American; Occupations, cook, auto mechanic, railroad section hand, draftsman, laborer; Scars and marks, face may be pimpled, mole on left side of chin, mole near left eye, bullet wound scar on left cheek, scar on tip of chin, scar on knuckle of left thumb, scar inside left wrist; Remarks, sometimes wears mustache.

If your records reflect any information regarding this person, or should any information come to your attention in the future, please contact the nearest FBI office by the most expeditious means. The address and telephone number of the nearest FBI office are listed on the front page of your local telephone directory.

This space contributed by PROGRESSIVE ARCHITECTURE in cooperation with the U. S. Department of Justice, Federal Bureau of Investigation, Washington 25, D. C.

The lighting every young American deserves is here at last!

yesterday's inadequate systems are now superceded by this shadow-dispelling ceiling of comfortable light.

NOW! Here, at last, is the
COMFORT-BRIGHTNESS BALANCE
long sought by Educators

no forest of fixtures . . . no annoying glare . . . no disturbing brightness . . .

The dream of every educator . . . *more useable illumination with greatly improved comfort-brightness balance*—is now brought to realization through Benjamin's newest engineering advancement . . . the "Grid-Lite" Lighting System.

"Grid-Lite", through its translucent louvers, literally creates an entire ceiling of light . . . yet without involving excessive cost.

The translucent louver not only provides proper shielding . . . but imparts a unique quality to the light that makes for ease of seeing . . . a complete unawareness of high level lighting . . . a sense of comfort which promotes attention and concentration.

"Grid-Lite" triumphs over cost. It puts the entire system into a single package . . . ready to install. A descriptive bulletin is ready for your inquiry. Write Benjamin Electric Mfg. Co., Dept. PA. Des Plaines, Illinois.

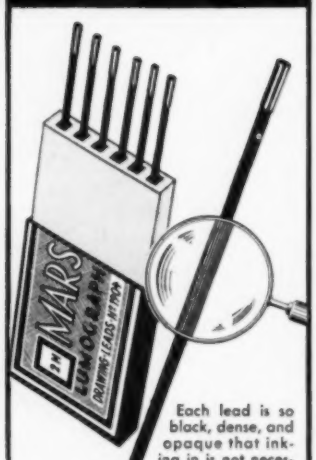
Latest Engineering Achievement by **BENJAMIN** **"Grid-Lite"**

A COMPLETE LIGHTING SYSTEM IN A PACKAGE
READY FOR ECONOMICAL INSTALLATION
sold exclusively through electrical distributors

Bissell

SCHLAGE LOCKS

MARS
LUMOGRAPH
Imported
DRAWING LEADS
cost no more!



Each lead is so black, dense, and opaque that inking in is not necessary. No flaking or smudging. Better reproductions.

Leads are accurately graded and plainly marked as to degree. Each lead has a removable metal cap to prevent lead from sliding out of pencil. Metal clutch holds securely as leads are ribbed for better gripping.

For economy through quality, use #1904 MARS LUMOGRAPH imported pencil leads. 18 degrees of hardness from EXB to 9H. 60¢ a box of 6. Quantity discounts. At your dealer's or write us. Try #1018 Mars Lumograph Artist Pencil with the special sharpener cap—$1.00. Also quantity discounts.

J. S. STAEDTLER, INC.
53 WORTH STREET
NEW YORK 13, N.Y.

it's the law

(Continued from page 170)

promise no doubt dictated by compelling necessity and perhaps temporary.

The now superseded statute of Georgia, dealing with the registration of architects merely restricted the use of the title, "Architect," but did not ban the practice of architecture by unqualified persons. Section 84-321 read, in part, as follows:

". . . nor shall anything contained in this Chapter prevent persons, mechanics, or builders from making plans and specifications for, or supervising the erection, enlargement, or alteration of buildings or any appurtenances thereto to be constructed by themselves or their employees: Provided, that the working drawings for such construction are signed by the authors thereof with their true appellation, as 'Engineer,' or 'Contractor,' or 'Carpenter,' etc., without the use in any form of the title 'Architect'."

The courts, when confronted by statutes of this or similar import have held that the purpose of such law is the protection of the public from misrepresentation and deceit, and its prohibition is no greater than called for by this purpose. In these states this has had the fantastic result of permitting *anyone* to practice architecture, without regard to the public health, safety, and welfare. The practical effect of such laws upon the qualified and trained architect, is to compel him to compete against those who, but for the laxity of the registration laws, would merely execute his plans and specifications.

●

In contrast to the above weak and ineffectual former Georgia registration statute, the present Section 84-302, effective February 15, 1952, provides as follows:

"Certificate of Qualification to Practice Under Title of Architect: An architect within the meaning of this Act is an individual technically and legally qualified to practice architecture and who is authorized under this Act to practice architecture. Any person wishing to practice architecture who prior to the passage of this Act shall not already have been registered to practice architecture in the State shall before being entitled to be known as an architect secure from the Georgia State Board for the Examination, Qualification, and Registration of Architects a Certificate of Qualification to practice under the title of Architect as provided by this chapter and the amendments thereto. The renewal of Certificates of Registration issued to architects registered prior to the enactment of this amendment shall carry the obligations required by this amendment to the original Act under which their previous registrations have been granted. Except as otherwise provided in this Act, *no person shall practice architecture* in the State of Georgia or use the title 'architect' or 'registered architect' or any words, letters, figures, or any other device in-

(Continued on page 176)

SPECIFY:

ALLENCO
First in Interior Fire-Protection Equipment

CONCEALED *or* FLUSH *type* SIAMESE

This Siamese minimizes projections from face of building. Body, with two independent self-closing clapper valves, can be inside or even built into wall. Extra heavy bronze, lasts for life of building. Siamese (inlet for F. D.) or wall hydrant (outlet for F. D.), with or without sill cock, full range of sizes. Complete line of standpipe equipment.

Whatever your wants in interior fire-protection equipment, you'll find ALLENCO provides the most *reliable* and *economical* product. See Sweet's Architectural Catalog File.

A. I. A. 29e2

ARCHITECT'S DATA BOOK— Allen on Interior Fire-Protection—packed with concise and complete specifications and practical working data to make your work easier. Available without cost to architects and engineers. Write for your copy or for a call by our Consulting Service . . . now.

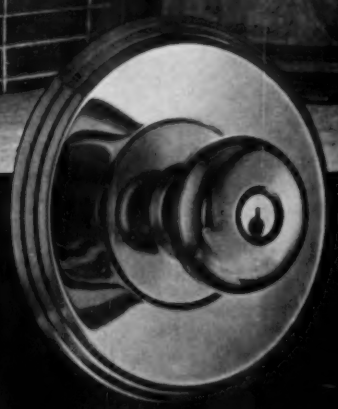
Established 1887

W. D. ALLEN
Manufacturing Co.

CHICAGO 6 NEW YORK 7

SCHLAGE LOCKS ...

DISTINCTIVE appearance...TIME-PROVEN performance



SCHLAGE PLYMOUTH DESIGN
with Riviera escutcheon

The quality of Schlage cylindrical locks is clearly evident ...in their beauty and in their trouble-free operation... time-proven for more than a quarter of a century.

SCHLAGE®

THE Time-Proven CYLINDRICAL LOCK

SCHLAGE LOCK COMPANY · 2201 BAYSHORE BOULEVARD, SAN FRANCISCO, CALIFORNIA
SCHLAGE LOCK COMPANY OF CANADA, LTD. · VANCOUVER, B. C.

NATCO STRUCTURAL CLAY TILE

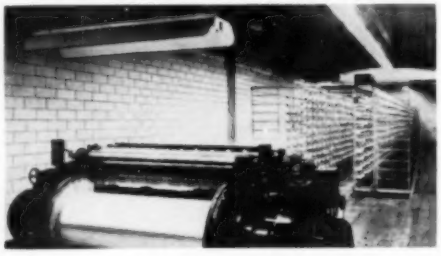
for Exterior and Interior Walls in the Modern Factory

Exterior and interior views of Greenwood Textile Mills, Cothran, S. C. Engineers — McPherson Company, Greenville, S. C. Exterior walls of Natco Mingled Shades, Tex Dri-Wall Tile lined with Natco Ceramic Glazed Vitritile.

Such exterior walls, when lined with Natco-Ceramic Glazed Vitritile, **also non-critical,** represent the best in masonry construction. These interior walls and partitions of Natco Vitritile set up sturdy and strong are attractive and cheerful, and require little or no maintenance other than an occasional cleaning with soap and water. The finishes and colors available with Natco Ceramic Glazed Vitritile have been scientifically selected and developed to provide a **permanent** structural wall and a **permanent** attractive functional finish in one operation.

Immediately available, when you specify and use Natco Structural Clay Tile, you are free from costly, time-wasting delays. Send now for your copy of Faber Birren's Book entitled "The Scientific Approach to Color Specification." It is yours for the asking.

Exterior and interior views of Schneider Textile Mills, Taylorsville, North Carolina. Engineers — Biberstein & Bowles, Charlotte, N. C.; General Contractor — Luke Gwaltney, Taylorsville, N. C. Exterior walls of Natco Manganese Spot Dri-Speedwall Tile lined with Natco Ceramic Glazed Vitritile.



Exterior walls of non-critical Natco Manganese Spot Dri-Speedwall Tile or Natco Tex Dri-Wall Tile are strong and enduring, are load-bearing, architecturally attractive and resist moisture penetration. In addition, they are fire, termite and vermin proof, cannot rot or decay, are free from shrinking and cracking and require no painting or repairs.

NATCO
QUALITY CLAY PRODUCTS SINCE 1889

PRODUCERS' COUNCIL

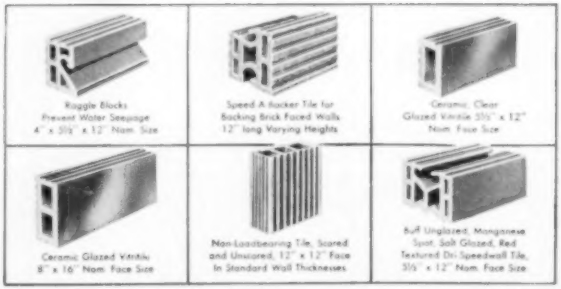
FTI Member of

NATIONAL FIREPROOFING CORPORATION

GENERAL OFFICES: 327 FIFTH AVENUE • PITTSBURGH 22, PA.

Branches: New York • Syracuse • Detroit • North Birmingham, Alabama
Chicago • Philadelphia • Boston • Toronto 1, Canada

"The Quality Line Since 1889"



Roggle Blocks Prevent Water Seepage 4" x 30⅔" x 12" Nom. Size

Speed-A-Backer Tile for Backing Brick Faced Walls 12" long Varying Heights

Ceramic, Clear Glazed Vitritile 30⅔" x 12" Nom. Face Size

Ceramic Glazed Vitritile 8" x 16" Nom. Face Size

Non-Loadbearing Tile, Scored and Unscored, 12" x 12" Face In Standard Wall Thicknesses

Buff Unglazed, Manganese Spot, Salt Glazed, Red Textured Dri-Speedwall Tile, 30⅔" x 12" Nom. Face Size

FOR ABOVE...

Present government regulations still allow you to install copper water tube for hot and cold water lines.

Chase Copper Water Tube's resistance to corrosion makes it the number one choice for domestic water lines.

OR DOWN UNDER

Underground piping of Type K Chase Copper Water Tube resists the double corrosive action of earth on the outside and water inside.

The easy-to-install coiled lengths of 40, 60 and 100 feet require fewer fittings . . . and its soft temper permits bending around obstructions.

...it's Chase Copper Water Tube

Since government regulations do not prohibit the use of copper for domestic hot and cold water lines, or underground service lines, it's wise to plan the use of Chase Copper Water Tube for these two important types of installation.

Chase Copper Water Tube is made in hard and soft tempers for use with both solder-joint and flared fittings.

Rustproof, corrosion resistant, easily worked, smooth interior for better flow —these are some of the reasons why Chase Copper Water Tube is ideal for long life, fine service.

Chase BRASS & COPPER

WATERBURY 20, CONNECTICUT • SUBSIDIARY OF KENNECOTT COPPER CORPORATION

• *The Nation's Headquarters for Brass & Copper*

Albany†	Cleveland	Kansas City, Mo.	New York	San Francisco
Atlanta	Dallas	Los Angeles	Philadelphia	Seattle
Baltimore	Denver†	Milwaukee	Pittsburgh	Waterbury
Boston	Detroit	Minneapolis	Providence	
Chicago	Houston†	Newark	Rochester†	(†sales office only)
Cincinnati	Indianapolis	New Orleans	St. Louis	

Rotary

OILDRAULIC®

THE MODERN ELEVATOR

FOR MODERN BUILDINGS

Most economical elevator for 2, 3 or 4 stories

Oildraulic Elevators are designed for low-cost installation and economical, trouble-free operation. No penthouse or heavy load-bearing shaftway structure used . . . powerful hydraulic jack supports car and load. New Rota-Flow power system insures smooth, quiet operation. Automatic floor leveling within ¼" guaranteed! Car sizes, capacities and controls as required.

Over 65,000 Oildraulic Elevators and Lifts are now in use . . . backed by Rotary's coast-to-coast service organization.

Write for catalog on modern elevators for freight or passenger service.

ROTARY LIFT CO.
1119 Kentucky—Memphis 2, Tenn.

it's the law

(Continued from page 178)

dicating or intending to imply that he or she is an architect without having qualified as required by this Act. No firm, company, partnership, association, corporation, or other similar organization shall be registered as an architect. Only individuals shall be registered as architects. Firms, companies, partnerships, associations and corporations may prepare plans, drawings, and specifications for buildings and structures as defined by this Act and perform the services heretofore enumerated common to the practice of architecture, provided that at least one of the chief executive officers of such firms, companies, partnerships, associations, corporations, or similar companies, are registered architects in the State of Georgia under this Act and provided further that the supervision of such buildings and structures shall be under the personal supervision of said registered architects and that such plans, drawings, and specifications shall be prepared under the personal direction and supervision of such registered architects and bear their individual signatures and seals."

●

The old law merely required as a prerequisite for registration (an examination being discretionary with the Board):

". . . satisfactory evidence of having completed the course in a high school or the equiv-

(Continued on page 178)

OWNER • ARCHITECT
ENGINEER • CONTRACTOR

PLASTIMENT*-CONCRETE SATISFIES ALL FOUR BECAUSE

- MIXES BETTER
- HANDLES EASIER
- PLACES FASTER
- STAYS DURABLE

*PLASTIMENT is the chemically Retarding Densifier especially developed for concrete work which requires your guarantee. Retards set, densifies mix to provide controlled properties far superior to reference concrete. Designed for use with all types of aggregates and all methods of mixing and placing, PLASTIMENT-Concrete's ease of handling and superior results find ready on-the-job acceptance in every phase of construction. For full details, write or call.

APPROVED: PLASTIMENT and other Sika Products have been tested and approved on Federal, State and Municipal projects, and are approved under Building Codes of principal cities.

Sika

SIKA
CHEMICAL CORPORATION
33 GREGORY AVE • PASSAIC, N. J.
TELEPHONE PRescott 7-8020

Here's help in Specifying

EMERGENCY ELECTRIC POWER!

Model 10EL
10,000 watts

● Our special folder on Emergency Electric Plants contains helpful information on computing wattage requirements of standby systems, engineering and installation details. Complete specifications of Onan Emergency Electric Plants are included.

We also offer free engineering service on problems involving standby electricity. Write us on any question. There is no fee or obligation.

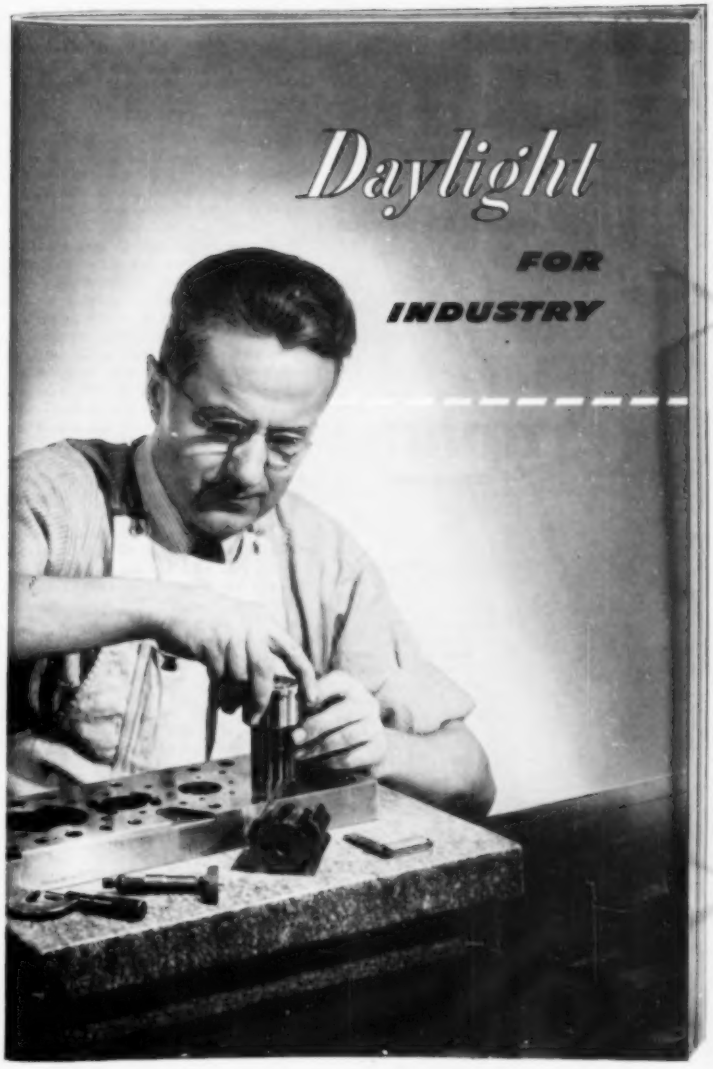
Onan Builds Standby Plants for any Type of Building
Many sizes—1,000 to 35,000 watts, for hospitals, radio stations, hatcheries, schools, industrial plants and many others.

See our CATALOG in SWEET'S FILE ARCHITECTURAL

Onan PRODUCTS

Send coupon today

D. W. ONAN & SONS INC.
4487 University Ave., Minneapolis 14, Minn.
Please send Standby Folder.
NAME
ADDRESS
CITY STATE



READY NOW

...a new 24-page booklet on daylight control

Here's a new booklet with the latest information on plant daylighting. If you're concerned with lighting, it should be "must reading." Nontechnically written, in easy-to-read form, "Daylight for Industry" brings you all of the important facts and fundamentals of daylight control.

Send for your copy now. See how you can make daylight do a maximum indoor lighting job . . . see how you can use an Insulux Fenestration System with Insulux Light-Directing Glass Block to assure better daylight for occupants and reduced operating cost for owners. *Insulux Division, American Structural Products Company, Toledo 1, Ohio. Subsidiary of Owens-Illinois Glass Company.*

INSULUX
GLASS BLOCK

—a product of the Owens-Illinois Glass Company

INSULUX GLASS BLOCK

IT'S FREE—WRITE TODAY

Insulux Division, American Structutal Products Co.
Dept. PA5, Box 1035, Toledo 1, Ohio

Please send a copy of your new free booklet, "Daylight for Industry."

Name_____

Company_____

Address_____

City_____ Zone_____ State_____

Draws a line 1/10th of a mile long with 1 filling!

WORLD'S ONLY DRAWING INK FOUNTAIN PEN

WITH INTERCHANGEABLE NIBS

Pelican Graphos

Saves thousands of time-wasting pen filling operations for the artist or draftsman — insures uniform thickness of line from hairline to ⅜" thick. Ideal for lettering, freehand drawing, technical drawing, sketching, or stenciling with the interchangeable nibs. Graphos uses any drawing ink, black or colored. Handles exactly like any drawing pen—beautifully balanced, light-touch. Time-tested — thousands in use in leading drafting rooms and art studios all over the world.

Ask your dealer — or write for illustrated booklets

JOHN HENSCHEL & CO., Inc.
105 EAST 29th STREET
NEW YORK 16, N. Y.

CLEAN, UNBROKEN LINES WHEN YOU DRAW WITH

Pelican WATERPROOF DRAWING INKS

Yes, even fine lines are obtained without breaks and without running with these superb inks backed by 112 years of quality manufacture. Absolutely waterproof; free-flowing; will not dry in ruling pen. Intense, opaque black and 19 clear, brilliant colors, blendable and dilutable. In 1 oz. bottles, handy cartridges and larger containers.

it's the law

(Continued from page 176)

alent thereof, and of having subsequently thereto completed such course in mathematics, history, and language as may be approved or prescribed by the said Board."

The new law provides:

"Any citizen of the United States, being at least 21 years of age and of good moral character, may apply through the Joint-Secretary, State Examining Boards, to the State Board for the Examination, Qualification, and Registration of Architects for a certificate of registration, or for such examination as shall be requisite for such certification under this Chapter; but before receiving such certificate the applicant shall submit satisfactory evidence of having completed the course in a high school or the equivalent thereof, *in addition to a minimum of seven years experience* in an office of a registered architect, as may be approved or prescribed by the said Board. The examination for the above academic requirements shall be held by the said Board. In lieu of such examination the said Board may accept satisfactory diplomas or certificates from institutions approved by the said Board covering the course or subject-matter prescribed for examination. Upon complying with the above requirements the applicant shall satisfactorily pass an examination in such technical and professional subjects as shall be prescribed by the said Board. The said Board may, in lieu of the examination in such technical and professional subjects, accept satisfactory evidence of any one of the qualifications set forth under subdivisions (a) and (b) of this section.

(a) A diploma of graduation or satisfactory certificate from an architectural college or school that he or she has completed a technical course approved by the American Institute of Architects, and subsequent thereto, at least three years' satisfactory experience in the office or offices of a reputable architect or architects.

(b) Registration or certification as an architect in another State or Territory where the qualifications prescribed at the time of such registration or certification were equal to those prescribed in this State at date of application.

The said Board may require applicants under these subdivisions to furnish satisfactory evidence of knowledge or professional practice. (Acts 1919, p. 129; 1931, pp. 7, 36.)"

●

Although the above-quoted paragraphs are not ideal in their requirements, they are obviously a long step in the right direction, when compared with the old law.

The accomplishment of the Georgia Chapter can and must be duplicated elsewhere. This is required not for the protection of the architect, but for the protection of the public, as this column has previously emphasized (December 1951 P/A). Unless a co-ordinated movement is organized, progress probably will be slow, if made at all, and regressive changes in the registration laws may ensue. The danger is to the public, but the obligation is the architect's to lead in avoiding the danger.

(His business paper . . . of course)

With the pushing pace of business today, your business problems won't wait. That's why the **Best Informed Men in your Field** so often take their business papers home to read. Competition won't stand still, or costs stay put; and new products come so fast you've *got* to read every issue. You need the news of what's new, what's happening . . . the what-to-do-and-how . . . and the what-to-do-it-with that you find in the editorial and advertising pages. It pays to read both . . . thoroughly . . . at home or on the job. That's what keeps *you* one of the **Best Informed Men in your Field.**

This business paper in your hand has a plus for you, because it's a member of the Associated Business Publications. It's a *paid* circulation paper that must *earn* its readership by its quality. And it's one of a leadership group of business papers that work together to add new values, new usefulness, new ways to make the time you give to your business paper *profitable* time.

More members of the Architectural Profession subscribe to Progressive Architecture than to any other magazine in the world

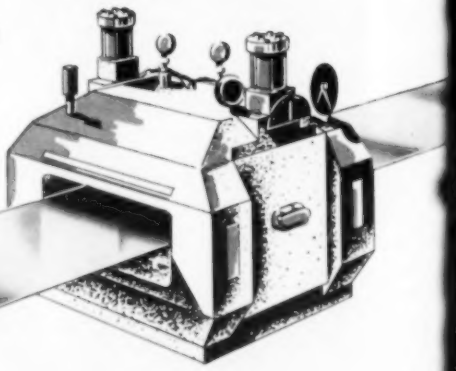
MicroRold®

Stainless Steel Sheets

TYPE 430

now available in

No. 2-b, 2-d, and No. 4 FINISHES*



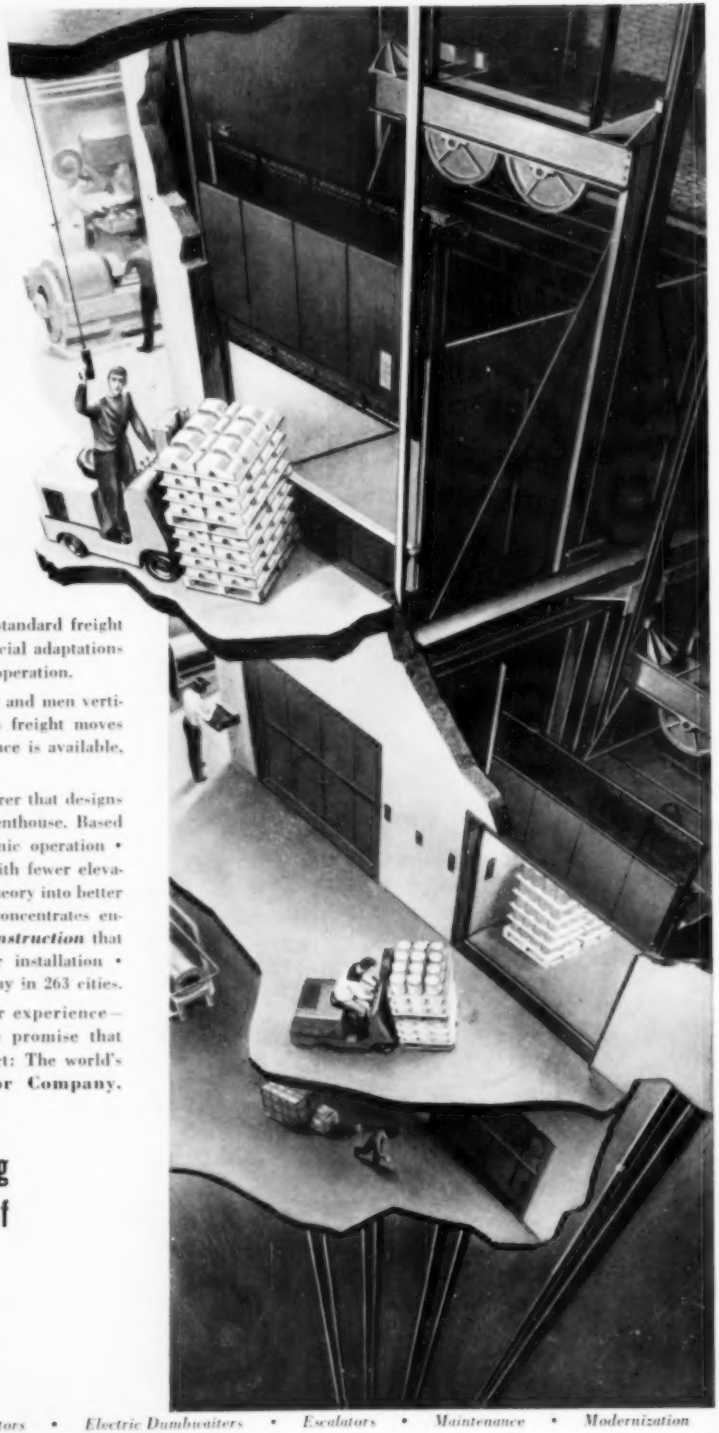
* 2-b—Annealed, pickled and re-rolled
2-d—Annealed and pickled only
4 —Standard polish

Extreme accuracy and uniformity of gauge provide more area per ton or an equivalent area with less weight.

Type 430 is more readily available than is the 18-8 grade.

WASHINGTON STEEL CORPORATION • WASHINGTON, PA.

We'll keep your material moving



. . . anything, from light-duty freight to power trucks for scheduled vertical-linkage in your materials handling system.

We can offer you the economy of standard freight elevators for regular service. And special adaptations for the unusual. Plus uninterrupted operation.

We deal in height. Moving material and men vertically. More than half of the world's freight moves on Otis elevators. Our broad experience is available, without charge, to everyone.

Otis is the only elevator manufacturer that designs and builds everything from pit to penthouse. Based on: ***Research*** that advances electronic operation • ***Planning*** that gives better service with fewer elevators • ***Engineering*** that turns tested theory into better elevatoring • ***Manufacturing*** that concentrates entirely on vertical transportation • ***Construction*** that brings elevator-trained men to your installation • ***Service*** that's available 24 hours a day in 263 cities.

This background of elevator experience—*unequalled anywhere*—delivers the promise that forms the basis of every Otis contract: The world's finest elevatoring. **Otis Elevator Company, 260 11th Ave., New York 1, N. Y.**

Better elevatoring is the business of

Otis

Passenger Elevators • *Freight Elevators* • *Electric Dumbwaiters* • *Escalators* • *Maintenance* • *Modernization*

NEW! NEW! NEW!

A dramatically beautiful Sound Conditioning material unlike any other you have ever seen!

Sharp perforations of varying size, arranged in random fashion.
Rich, linen-like surface that gives better light diffusion.
Pattern that minimizes joint lines, for beautiful overall effects.

Acousti-Celotex
RANDOM PATTERN
Perforated Tile

Introduced just a few short months ago, Acousti-Celotex RANDOM PATTERN Perforated Tile has already captured the imagination of architects in every part of the country.

Acclaimed the most unusual, most beautiful Sound Conditioning material in 20 years, it offers exciting new decorative possibilities for interiors of every type! Smart, dramatic effects impossible with any other Sound Conditioning product!

But that isn't even the half of it. Like all Acousti-Celotex products, RANDOM PATTERN Perforated Tile has high sound-absorbing value. Two coats of tough finish, bonded under pressure of a hot knurling iron, give it a surface of superior washability. Can be washed *repeatedly* and painted *repeatedly* without impairing its sound-absorbing efficiency.

ASK YOUR DISTRIBUTOR to show you the new Acousti-Celotex RANDOM PATTERN Perforated Tile. If you don't know where to reach him, write to The Celotex Corporation, Dept C-52, 120 S. LaSalle St., Chicago 3, Ill. In Canada, Dominion Sound Equipments, Ltd., Montreal, Quebec.

ACOUSTI-CELOTEX
TRADE MARK REGISTERED U. S. PAT. OFF.
Sound Conditioning

PRODUCTS FOR EVERY SOUND CONDITIONING PROBLEM

THE CELOTEX CORPORATION, 120 S. LA SALLE ST., CHICAGO 3, ILLINOIS

pa JOBS AND MEN

SITUATIONS OPEN

EXCELLENT OPPORUNITY—college graduate with experience to purchase practice and well-equipped office established forty years located in Rocky Mountain area in fast growing community. Owner is retiring. Give full particulars in application. Correspondence confidential. Box 426, PROGRESSIVE ARCHITECTURE.

WANTED—structural engineer for architects' office, Gulf South area. Well-established firm with large practice in industrial, commercial, educational, and institutional buildings needs structural engineer for complete structural services—design, analysis, specifications, drawings, etc. Employment on fee basis or salary will be discussed. Firm has own modern, air-conditioned office building. Housing situation favorable. Expenses of selected applicants will be paid for interview. In reply, please send full educational and practical experience record, references, and full personal data, including photograph. Box No. 427, PROGRESSIVE ARCHITECTURE.

ASSOCIATE—with business contacts is wanted to open a consulting engineer's office in partnership with engineer experienced for 12 years in the civil and mechanical field on commercial, industrial and institutional projects. Registered as P.E. in New York State. Box 428, PROGRESSIVE ARCHITECTURE.

WANTED—experienced architect or architectural engineer, over forty, to work in Research and Development Department of building products manufacturer, located in Western Pennsylvania. Must be familiar with fire-resistant materials and sheet metal fabrication. In reply, state qualifications, salary desired, and enclose photograph. Address Box No. 429, PROGRESSIVE ARCHITECTURE.

WANTED—senior and junior architectural draftsmen North West Florida. State age, salary expected, experience, education and availability. Ideal working conditions. Box 432, PROGRESSIVE ARCHITECTURE.

SOUTHERN ILLINOIS UNIVERSITY—has openings for chief architectural draftsman, senior architectural draftsman, and architectural mechanical engineer for school building program—all permanent. Contact Charles Pulley, Director, Architectural Services, Southern Illinois University, Carbondale, Ill.

Advertising Rates

Standard charge for each unit is Five Dollars, with a maximum of 50 words. In counting words, your complete address (any address) counts as five words, a box number as three words. Two units may be purchased for ten dollars, with a maximum of 100 words. Check or money order should accompany advertisement and be mailed to Jobs and Men, c/o Progressive Architecture, 330 W. 42nd St., New York 18, N. Y. Insertions will be accepted not later than the 1st of the month preceding publication. Box number replies should be addressed as noted above with the box number placed in lower left hand corner of envelope.

SITUATIONS WANTED

WANTED—contact with anyone wishing the services of a man of creative design ability, plus administrative capacity and the know-how of practical application with 28 years' of experience in architecture. Registered architect in numerous states, member of the A.I.A. Work in foreign fields welcomed. Box No. 430, PROGRESSIVE ARCHITECTURE.

YOUNG ARCHITECT—registered in southern state and a master's degree in architecture. Experienced in modern design and drafting wishes connection with a firm that offers future possibilities in a progressive community. Prefer to do contemporary work. Box 431, PROGRESSIVE ARCHITECTURE.

MISCELLANEOUS

ARCHITECT-ARTIST AND DELINEATOR—of long experience, offers services for freelance architectural renderings and perspectives, bird's-eye views of real estate developments, city-planning projects, engineering structures, highways and bridges. Construction of "perspectives in lines," without rendering. Instruction in Perspective and Rendering. Theodore A. De Postels, A.I.A., 644 Riverside Drive, New York 31, N. Y. AUdubon 6-0160.

CAREER BUILDERS PLACEMENT SERVICE—for Architects, Architectural Designers, Interior Designers, Industrial Designers, Draftsmen and Office Personnel. Interviews by appointment. Plaza 7-6385, 35 West 53rd Street, New York 19, N. Y.

ARCHITECTS-DESIGNERS—don't be burdened with the overhead of draftsmen and space. Let us do your preliminary sketches, details, working drawings, renderings and engineering on houses, institutional and commercial work. All work is done under the supervision of architects and engineers. Architectural Drafting Service, 35 So. Dearborn St., Chicago 3, Ill.

MURIEL FEDER-ARCHITECTURAL & DESIGN PERSONNEL AGENCY—a personalized placement service for top-level architects, designers, engineers, draftsmen, estimators, and interior designers. Selective contacts arranged in a confidential and professional manner. Interviews by appointment. 724 Fifth Avenue, New York, Judson 6-5877.

ARCHITECTURAL MODEL SERVICE—specialists in architectural, industrial and engineering scale models. Many years' experience devoted to precision, neatness and skilled craftsmanship. Low overhead and up-to-date methods of construction, enables us to quote reasonable fees. Guaranteed delivery by air to all parts of the United States and South America. Brochure upon request. J. L. Browne, Visual Architectural Consultant, 6395 S. W. 42 Terrace, Miami, Fla.

WARD W. FENNER—architect, 10 West 33rd St., New York 1, N. Y., doing commercial and industrial work would like to receive all pertinent manufacturers' literature.

ARCHITECTURAL ENGINEERING

A Practical Course (HOME STUDY) by Mail Only

Prepares Architects and Draftsmen for structural portion of

STATE BOARD EXAMINATIONS

For many this is the most difficult section of the examinations. Qualifies for designing structures in wood, concrete or steel. Successfully conducted for the past eighteen years. Our complete Structural Engineering course well known for forty-two years.

Literature without obligation—write TODAY

WILSON ENGINEERING CORPORATION

College House Offices Harvard Square
CAMBRIDGE, MASS, U. S. A.

Materials, methods, calculations

BUILDING PRACTICE MANUAL . .

by ROY W. WHITE, St. Paul Vocational School, St. Paul, Minn.

A practical, on-the-job guide to save you time and money.

Whether you build houses, small commercial buildings or other common structures—here is the book that makes job computation easy to understand and simple to do.

It shows the architect, mason, carpenter, plasterer and contractor the way to estimate *accurately* the many building materials that are used in many different jobs.

256 illustrations done by Simon & Rattberg, well-known architects, add even greater value to this useful book.

336 pages $4.85

REINHOLD PUBLISHING CORPORATION
Dept. M-314, 330 West 42nd Street, New York 18, N. Y.

Please send me ..... copies of BUILDING PRACTICE MANUAL by Roy W. White.

☐ On approval for 10 days. ☐ Please bill me.

(Postage prepaid if cash accompanies order.)

Name .....

Address .....

City ..... State .....

. . . and no wonder. AGITAIR Type R is the only diffuser to assure 100% air distribution in any shape area . . . from any location . . . without blank-offs or oversized outlets. Tailor-made for each application.

Write for Complete Data

Air Devices Inc.

17 East 42nd St. • New York 17, N. Y.

Air Diffusers • Air and Grease Filters • Exhausters

THE MODERN III
Three panels lend themselves to striking color treatments.

THE MODERN II
Two contrasting panels add interest to the unity of this design.

. . . a custom-styled panel door in tune with modern design.

THE MODERN I
The single panel creates an effect of height in traditional and modern settings.

The G-P Decorator Door

Georgia-Pacific's *Decorator Door* offers a new design concept in which the door plays a new, important part.

G-P Decorator Doors blend with modern design . . . add style and dramatic accents to traditional homes, stores or offices. They lend themselves beautifully to dramatic color effects. You can specify G-P Decorator Doors for *exterior* entrances or *interior* use. There are three basic designs in a complete range of sizes and grades.

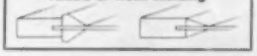
Give your clients the extra style and beauty of G-P Decorator Doors at *a new low price*. Georgia-Pacific's quality control makes possible a door that is custom-styled in appearance and quality yet available at a price far lower than custom-door prices.

Beauty and Quality at a New LOW COST

Be sure to see the G-P Decorator Doors yourself before you start your next job. If your lumber dealer doesn't stock them yet, write for our new Decorator Door folder. Georgia-Pacific Plywood Company, 617-5C North Capitol Way, Olympia, Washington.

TESTED AND PROVEN
The United States Testing Company subjected G-P doors to a series of exacting tests. After 500,000 hard slams (equal to 137 years of normal use) there was virtually no sign of wear.

Available in either raised or flush molding



G-P

GEORGIA—PACIFIC
PLYWOOD COMPANY

OFFICES OR WAREHOUSES IN: Augusta, Birmingham, Boston, Chicago, Columbia, Detroit, Lancaster, Louisville, Memphis, Nashville, Newark, New Hyde Park, Olympia, Orlando, Philadelphia, Pittsburgh, Providence, Raleigh, Richmond, Savannah, Vineland.

DOUGLAS FIR PLYWOOD · HARDWOOD PLYWOOD · GPX
SOUTHERN & WESTERN LUMBER · DOORS

"I wonder what happened to me !" said Alice

ALICE in Wonderland ate the magic cake and grew until she was more than nine feet tall. Our National bureaucracy also seems to have partaken of the magic cake of power. Bureaus in our government have grown in number and scope until their activities now control, to a great extent, the lives of all individual Americans. Department after department adds more and more people -- state, justice, commerce, treasury -- not to mention those sprawling emergency born agencies of price control, N.P.A. and other alphabetical subdivisions.

The number of employees of our federal, state and local governments continues to grow. During many recent months, personnel was added to the federal payroll at the rate of 1,500 daily.

What is the reason for this mushrooming? The Korean War? Threat of war in Europe, Southeast Asia, or the Middle East? Obviously not! A glance at the federal budget gives the answer. The estimated cost of all governmental functions for the fiscal year 1952 is in excess of 70 billions of dollars, an increase of 26 billions, or approximately 60% more than last year.

When will it end? Only you, the individual citizen, who carries the bureaucratic load on his back, can stop it. It will end when enough patriotic men and women demand from congress that the Washington Wonderland start shrinking back to reasonable proportions.

YOUR SCRAP IS NEEDED — YOUNGSTOWN

The Youngstown Sheet and Tube Company

General Offices -- Youngstown 1, Ohio
Export Offices -- 500 Fifth Avenue, New York
MANUFACTURERS OF CARBON ALLOY AND YOLOY STEELS

The steel industry is using all its resources to produce more steel, but it needs your help and needs it now. Turn in your scrap, through your regular sources, at the earliest possible moment.

GOOD BRICKWORK = GOOD DESIGN + GOOD WORKMANSHIP + GOOD MATERIALS

WHAT CAUSES LEAKY BRICK WALLS?

GET THESE AUTHORITATIVE BOOKLETS—FREE!

For years the National Bureau of Standards has made intensive and constructive studies of the causes and prevention of leakage in masonry walls. The results are contained in the valuable booklets illustrated at the left, one published by the National Bureau of Standards and the other by the Structural Clay Products Institute.

Both these books are "musts" for anyone interested in watertight masonry construction. In a few fact-filled, well-illustrated pages they discuss every important factor in preventing leaky masonry walls. Here are a few of the chapter heads: "Effect of Suction Rate of Brick", "Effect of Kind of Mortar", "Effect of Design of Walls", "Effect of Workmanship", "Effect of Water Retentivity of Mortar".

As manufacturers of Brixment, the world's largest-selling masonry cement, we are just as interested in watertight masonry construction as you are. Hence our offer to send you both books, without cost or obligation. The coupon is for your convenience.

Louisville Cement Co., *Incorporated*, Dept. 10
Second & Walnut Sts., Louisville 2, Kentucky

Gentlemen: Without cost or obligation, please mail me a copy of "Watertightness and Transverse Strength of Masonry Walls" and "Report BMS82 on the Water Permeability of Walls Built of Masonry Units".

Name_____

Firm_____

Street_____

City_____ State_____

LOUISVILLE CEMENT COMPANY, Incorporated, LOUISVILLE, KENTUCKY

Find the "Radiator"—

A Sale-able Idea in Heating

Find the "radiator"! Crane radiant baseboard heating is inconspicuous, efficient, does away with drafty currents. Easily installed in new or existing homes. Readily matched to any interior decorating scheme.

How Crane ideas for radiant baseboard panels help your clients get the most out of the homes you plan

The idea here is to take full advantage of the plans you draw. With radiant baseboard heating you can do it. Your clients can arrange their furniture for best effect and comfort, free of the limitations imposed by conventional radiators and warm air ducts.

This is one of the new ideas demonstrated in Crane's new "Sketchbook of Ideas," a basic part of Crane's new service to Architects who specialize in designing homes. This remarkable book includes suggestions and floor plans for kitchens, bathrooms and utility rooms . . . and it's written and illustrated to help you get client approval for new ideas and arrangements.

If you want further information on any of the rooms in the Sketchbook, we can furnish suggestions for room arrangements and decorating.

This service is available through your Crane Branch or Crane Wholesaler. Call them today.

COME TO CRANE FOR IDEAS

CRANE CO.

GENERAL OFFICES: 836 SOUTH MICHIGAN AVE., CHICAGO 5

VALVES • FITTINGS • PIPE
PLUMBING AND HEATING

Fasten it with STAINLESS STEEL

for Better Looks – Longer Life

LEADING PRODUCERS OF FASTENERS USE ALLEGHENY METAL

A complete line of stainless steel fasteners—all types and sizes of bolts and nuts, rivets, wood and machine screws, cotter pins, washers, etc.—are made of Allegheny Metal by the leading manufacturers in this field. Get in touch with them for catalogs and prices, or write us direct.

ADDRESS DEPT. PA-29

Allegheny Metal fasteners are non-rusting, non-staining. They will last as long as, or longer than, the materials they join. You can count on them to stand up through the years—both in strength and in bright good looks.

Best of all, stainless steel fasteners can be used anywhere. It isn't necessary that the materials to be joined are stainless—these corrosion-proof fasteners are the perfect answer for joining other metals, woods, or plastics.

Fasteners made of Allegheny Metal are produced in complete variety—every type and size that your job requires.

For improving quality and reliability wherever they're used—and for the economy of lifetime service—specify fasteners made of the time-tested stainless steel, *Allegheny Metal.* ● For any technical data or engineering help in the use of stainless steel, address *Allegheny Ludlum Steel Corporation, Henry W. Oliver Bldg., Pittsburgh 22, Pa.*

You can make it **BETTER** with

Allegheny Metal

AL
TIME-TESTED STAINLESS STEEL

BUYING

VENTILATORS?

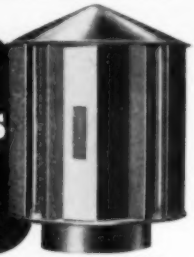
GET THE FACTS FIRST...

Ask for CERTIFIED Ratings... It's the only way you can be sure ventilator performance will measure up to the ratings claimed for it.

Ask for Ratings Based on VARIABLE Wind Conditions...if you want a ventilator that performs efficiently under *all* wind conditions. Ratings of most ventilators are based on *horizontal* wind tests only, or tests made at favorable angles. Many ventilators down-draft at other angles.

Breidert Air-X-Hausters

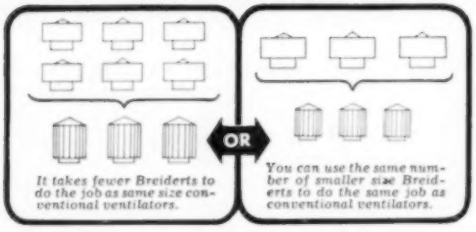
PROVIDE SAFE, SURE VENTILATION NO MATTER WHICH WAY THE WIND BLOWS...



Patent No. 2269428

Certified tests show that the actual capacities of Breidert Air-X-Hausters are greater than published ratings (barring interior negative pressures). Stationary, no moving parts, nothing to jam or get out of order. *The Breidert is the pioneer ventilator* to publish certified ratings based on tests* made with wind blowing in all directions.

The Breidert Delivers Better Results at Minimum Cost



It takes fewer Breiderts to do the job as same size conventional ventilators.

You can use the same number of smaller size Breiderts to do the same job as conventional ventilators.

Get *all* the facts! Write today for complete Engineering Data Book, including certified capacity ratings. Address Dept. E.

Every businessman should read "Plain Facts and Simple Figures," written by G. C. Breidert. This thought-provoking article pertains to the problems of every American businessman. The first twenty lines will open your eyes! Write for a free copy.

THE G. C. BREIDERT CO.

3129 San Fernando Road, Los Angeles 65, Calif.

Representatives in principal cities throughout the U. S.

*By Pittsburgh Testing Laboratories

Parkwood *Genuwood* in lovely mottled mahogany used in the Bank of Laguna Beach; architect Don Williamson, A.I.A.; Laguna Beach.

Beauty Salon in Bullock's Westwood has Parkwood maple Genuwood on vertical surfaces, Parkwood *Decorative* on counter tops. Designer Welton Beket.

Parkwood

Tops Anything

These two outstanding installations are typical of the wide range of interesting applications architects and designers are finding for the distinguished PARKWOOD series of high-pressure laminates.

PARKWOOD DECORATIVE – Rich tints and lovely pastels, in solid color or intriguing patterns, including wood grain Rotowoods . . . protected by a lamination of 100% Melamine, for maximum resistance to abrasion, alcohol, boiling water, common acids and alkalis; minimum cleaning and maintenance worries.

PARKWOOD GENUWOOD – *Genuine* precious wood veneers . . . sheer beauty, protected for life by 100% Melamine lamination. Needs no refinishing; is immune to dropped cigarettes and overturned drinks; easily cleaned. Traditional and exotic woods. Cross-grained panels and special inlays to order.

Wherever *beauty* and *duty* join hands . . . for handsome effect, resistance to wear and ease of maintenance you can't do better than specify PARKWOOD laminates.

Consult Sweet's File No. 14a PAR for full data and name of nearest distributor; or write us for literature.

Parkwood Laminates, INC.

29 Water St., Wakefield, Massachusetts

Combination Ceiling-Silencer of Fenestra Acoustical "AD" Metal Building Panels in Crompton Knowles Co., Worcester, Mass. *Architect:* Owner, *Contractor:* R. L. Whipple Construction Co., Worcester.

Fenestra's New Structural-Acoustical Ceiling Keeps Rooms Quiet . . . Cuts Building Costs

Here's a wonderful, economical way to hush the hubbub in corridors and rooms in the new building you're planning.

Fenestra* Acoustical "AD" Metal Building Panels form acoustical ceiling and structural subfloor or roof—all in one package . . . saving building time, labor, materials and money!

An "AD" Panel is a box beam with a flat surface top and bottom and open space between. The top surface forms the subfloor or roof deck. The perforated bottom surface forms the ceiling. In the open space is glass fiber insulation (see illustration below).

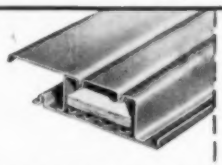
You can see how a Fenestra combination Structural-Acoustical Ceiling cuts building costs. It is speedily and easily erected—the panels interlock. It is practically indestructible. Bumps and knocks can't hurt it. The acoustical efficiency is not affected by washing or painting. And these panels are noncombustible.

For further information call your Fenestra Representative. Or write Detroit Steel Products Company, Dept. PA-5, 2253 East Grand Boulevard, Detroit 11, Michigan. *Trademark

Fenestra METAL BUILDING PANELS

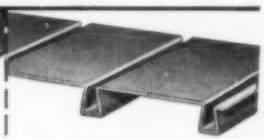
...engineered to cut the waste out of building

"D" Panels for floors, roofs, ceilings. Standard width 16". Depth 1½" to 7½".



Acoustical "AD" Panels for ceiling-silencer-roof. Width 16". Depth up to 7½".

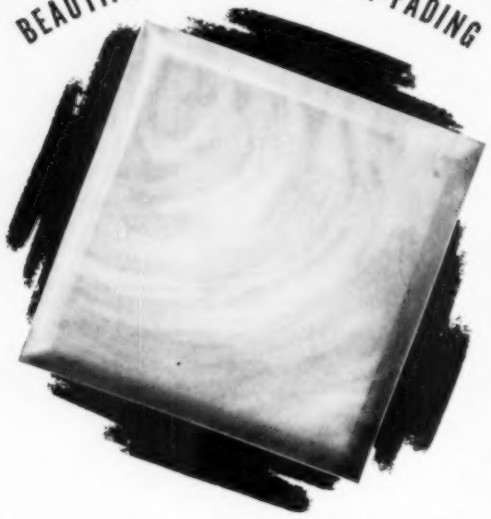
"C" Insulated Wall Panels. Standard width 16". The depth is 3".



Holorib Roof Deck. 18" wide—lengths up to 24'. Surface can be plain or acoustical.

HASTINGS Plastic Tile

BEAUTIFUL · DURABLE · NON-FADING



An exciting New wall facing which you can specify with confidence!

Developed and designed by experienced tile craftsmen . . . offered in a wide range of bewitching colors . . . delicate, restful pastels, rich solid colors, lovely marble effects. Bevel edge, with scientifically designed back for firm adhesion to mastic. Supplied with caps, strips, inside and outside corners and bullnose caps. Light in weight, but strong . . . attractively priced.

Economical . . . Easy to Install

This colorful new plastic wall facing is manufactured to the same high standards used in producing the well known line of *HASTINGS* aluminitile. NOW you can obtain from one reliable source both plastic and metal tile to meet the requirements of all customers. You can recommend *HASTINGS* with confidence.

WRITE FOR COMPLETE INFORMATION and SAMPLES WITHOUT OBLIGATION

METAL TILE PRODUCTS, INC., Department 510, Hastings, Michigan

Send me information on HASTINGS plastic tile. I am an ☐ Architect ☐ Dealer ☐ Distributor ☐ Contractor.

NAME _____

ADDRESS _____

CITY _____ STATE _____

Specialized STAGE DESIGN SERVICE *for Architects*

To help you solve the highly technical engineering problems involved in stage design and construction, we offer you a straight-forward, competent service based on 76 years of experience and a record of success in theatres, schools and auditoriums all over the world.

References:

1. The Jobs We Have Done
2. The Architects We Have Served

List on Request

World's Largest Designers, Manufacturers and Riggers of Mechanical Stage Equipment

Send for Free Booklets Giving Details of Clancy Engineering and Design Service

- How to Design a Modern Stage
- Clancy Proscenium Treatments
- Standard Rigging Specifications
- Complete Catalog

J. R. CLANCY INC.

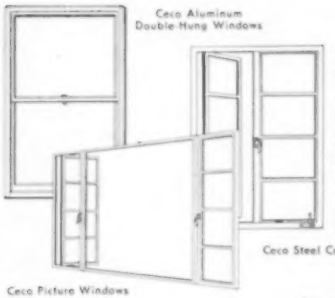
1020 W. BELDEN AVE., SYRACUSE 4, N. Y.

DEW has been lauded in lyrical poetry—artists have painted its shimmering beauty. Yes, in some places dew looks good.

But not on windows—here it is a *warning*.

Here it means DON'T—don't blame windows and don't delay getting at the real cause, for when the "dew-point" is reached water is at work dangerously . . . staining walls, attacking paint, and rotting structural timbers.

Do Windows Cause Condensation? NO!



RIGHT OFF—consider this—windows do not *cause* condensation—they merely *reflect* the first *effect* of it. Condensation is caused by an overabundance of moisture vapor in the air—when the saturation point meets the proper temperature it becomes water.

Send for booklet on how to control condensation.

CECO STEEL PRODUCTS CORPORATION

General Offices: 5601 West 26th Street • Chicago 50, Illinois

Offices, warehouses and fabricating plants in principal cities

CECO STEEL ®

How Condensation is Created

Today's changed living habits, plus tightly constructed, compact homes have much to do with causing condensation. Here are some sources.

Washing left-over dishes and cooking can release as much as 5.76 pounds of moisture.

Washing and drying clothes at home can release as much as 30.73 pounds of water.

Two shower baths can add a pound of moisture to the air, while two tub baths can build up 0.24 pounds.

External vapor generated by uncovered earth in crawl spaces may be greater than all other sources combined.

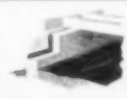
How to Control Condensation

The home-owner can do much toward decreasing condensation. Here are four methods of control.

Exhaust fans control moisture in kitchens in addition to eliminating cooking odors.

Windows in the laundry room should be opened slightly when laundering.

Moisture can be controlled in the bathroom by opening windows and keeping the door shut after bathing.



Ventilation of crawl space and covering earth with roofing felt is another condensation control method.

In construction products **CECO ENGINEERING** *makes the big difference*

1952 PAGE ONE

TEMPERATURE CONTROL *Notes*

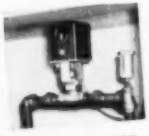
by **BARBER-COLMAN COMPANY**
ROCKFORD, ILLINOIS

SUBJECT: Oakridge School, Arlington, Virginia.

AUTHORS: ARCHITECTS: Allen J. Dickey and John Graham, Jr., Arlington, Va. ENGINEER: A. Dee Counts, Wash., D. C.

HEATING CONTRACTOR: W. J. Baumbach, Inc., Arlington, Va.

PROJECT: *To install a simple, cost-saving heating and ventilating system . . .* Illustrations at the left show, top: Barber-Colman Motor-Operated Valve as installed on hot water supply to each school room; shown below: Barber-Colman Motor-Operated valve on the steam supply to converter in boiler room.



REMARKS: Water temperature, from converter supplied by the oil-fired steam boiler, is varied automatically by a Barber-Colman Outdoor Reset Thermostat. Individual room temperature is kept constant and overruns avoided by use of Barber-Colman Anticipating Thermostats and Motor-Operated Valves.

BARBER COLMAN

BARBER-COLMAN COMPANY
1230 ROCK ST., ROCKFORD, ILLINOIS

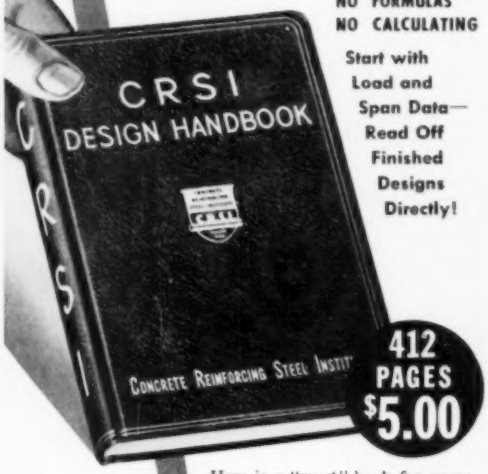
Finished Designs

OF REINFORCED CONCRETE MEMBERS

All Worked Out!

NO FORMULAS
NO CALCULATING

Start with Load and Span Data—Read Off Finished Designs Directly!



412 PAGES $5.00

Here is a "must" book for every engineer and designer working with reinforced concrete. It reduces design of members to simple table references, and eliminates time-consuming calculations.

"CRSI Design Handbook" has tables covering every type of reinforced concrete member, including floor systems, columns, footings, etc. You just apply load and span figures to the correct tables, then *read off directly* your concrete dimensions and steel data. Latest building codes followed. A valuable designing tool!

Prepared under the direction of the Committee on Engineering Practice

PARTIAL CONTENTS

- **FLOOR SYSTEMS** Solid slabs • stair slabs • beams • concrete joists • two-way flat slabs (square panels)
- **COLUMNS** Square tied • round and square spirally reinforced
- **FOOTINGS** Square footings • pile footings • combined footings
- **RETAINING WALLS and AREAWAYS** Earth and water pressures • cantilever retaining walls • basement walls
- **MISCELLANEOUS TABLES** Bars—weights and areas, combinations, etc. • slab areas • wire mesh • design constants • beam tables • uniform loads • rigid frame values • contents of warehouses • accessories, etc.

SEND FOR YOUR COPY . . . TODAY!

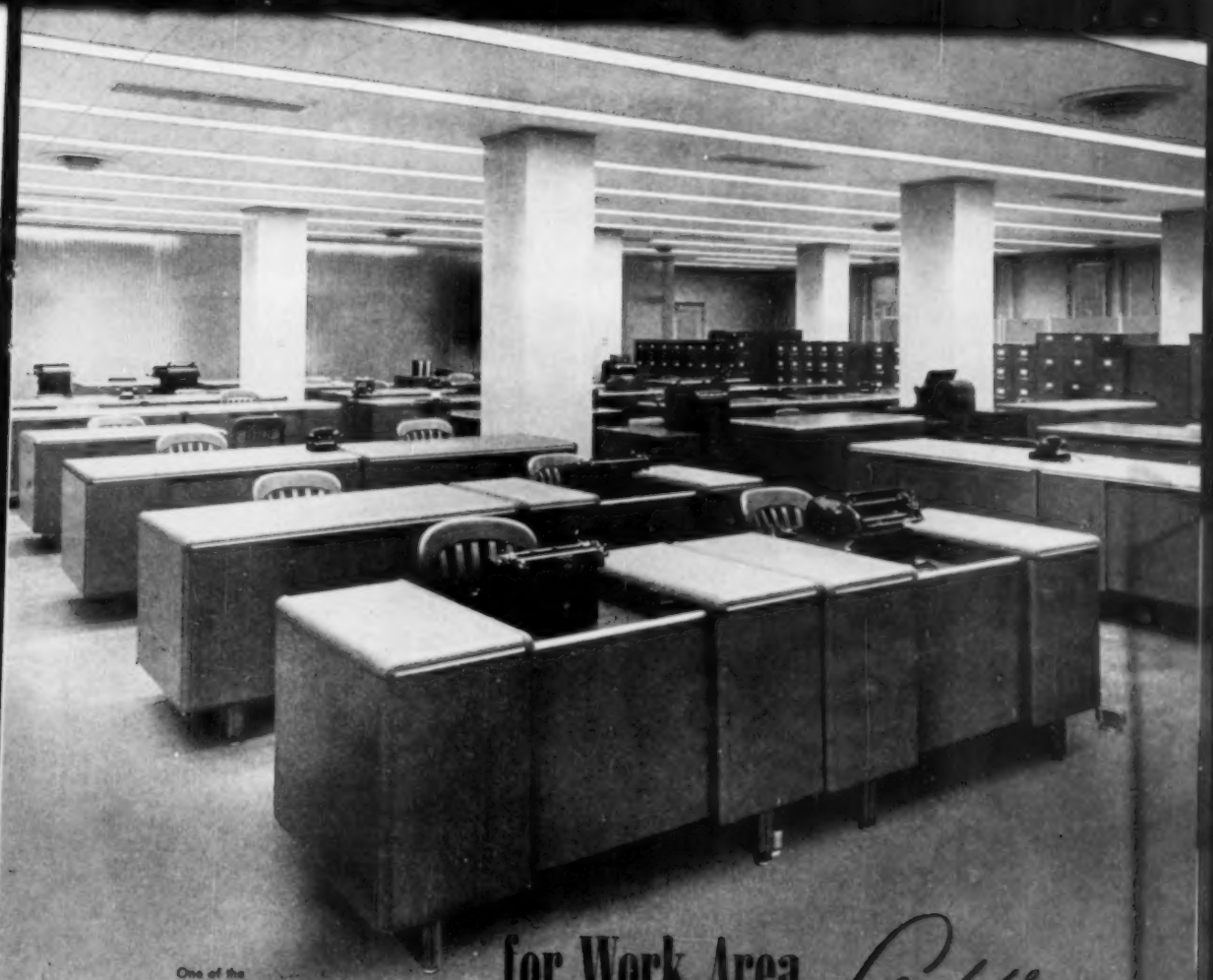
Concrete Reinforcing Steel Institute
38 South Dearborn St., Chicago 3, Ill.

● I am enclosing $5.00. Please send me a copy of "CRSI Design Handbook." If not completely satisfied, I will return the book within ten days for a full refund. (No C. O. D. orders accepted.)

NAME _____

ADDRESS _____

CITY _____ STATE _____



One of the
General Offices
H. J. HEINZ COMPANY
Pittsburgh, Pa.

for Work Area *Lighting*

look to "Pittsburgh" Permaflector

In office or plant, drafting room or classroom—Pittsburgh Permaflector Lighting Equipment assures you the light you need where it's needed. Standard fluorescent, incandescent and combination units give custom lighting results for general and critical seeing tasks.

PITTSBURGH REFLECTOR COMPANY

421 OLIVER BUILDING • PITTSBURGH 22, PENNSYLVANIA

MANUFACTURERS OF FLUORESCENT & INCANDESCENT LIGHTING EQUIPMENT

Permaflector Lighting Engineers in All Principal Cities

PLANNING NEW LIGHTING?

We have a series of booklets on Office, Store, Bank, School and Plant Lighting. Write for booklets which interest you.

PITTSBURGH PERMAFLECTOR LIGHTING EQUIPMENT IS DISTRIBUTED BY BETTER ELECTRICAL WHOLESALERS EVERYWHERE

• CORALUX • CORALUX • CORALUX • CORALUX • CORALUX •

tough, difficult jobs are made easier with . . .

CORALUX

TRADE MARK

THE *Annealed* PERLITE AGGREGATE

Combines light weight with maximum fire resistance for greater advantages. Readily and easily applied in one application on a single, non-scarce material, CORALUX'S light weight reduces dead loads to such an extent that important tonnage savings of steel are possible. Shorter handling, setting and drying time permits "production line" application on fast jobs. In the roof construction shown below, CORALUX Concrete Aggregate was selected as the ideal material. Because CORALUX uses less water, it was most practical for application to this steep-pitched roof. For *Any* Job—It's CORALUX.

See Section 12C/5C Sweet's Architectural File for Technical Data.

New Brochure

Get the facts on CORALUX applications. Send coupon, *today!*

Please send me full details on the use of CORALUX Concrete and Plaster Aggregates in all types of structures.

NAME_____

FIRM_____

ADDRESS_____

CITY_____ ZONE____ STATE____

MAIL COUPON NOW!

Form 1

A Building Product of

F. E. SCHUNDLER & CO., INC.

Joliet, Ill. **Long Island City, N. Y.**

and its exclusive Coralux Licensees

• CORALUX • CORALUX • CORALUX • CORALUX •

New, all rubber

SPONGEX RIPPLE RUG CUSHION

The one rug cushion that features performance, comfort and economy

High in performance

Ripple has the super softness of all sponge rubber. Naturally resilient, always resilient—Ripple cushions every footstep with a combination of thousands of intersupporting rubber arches and air. Any rug laid over Ripple is luxurious to walk on and will last year after year.

Low in cost

Ripple has the quality and luxury only sponge rubber can have, yet *costs no more* than ordinary pads of hair or fiber. It's Spongex Ripple—unequalled in performance—unequalled in price!

Easy to maintain

Ripple is all rubber, so naturally it's moth and vermin proof—real protection for expensive carpet installations. And it's clean—Ripple creates no extra cleaning problems—it can't shed loose hairs or fibers about the floor. Remember, too, Ripple is non-allergenic—always clean and fresh!

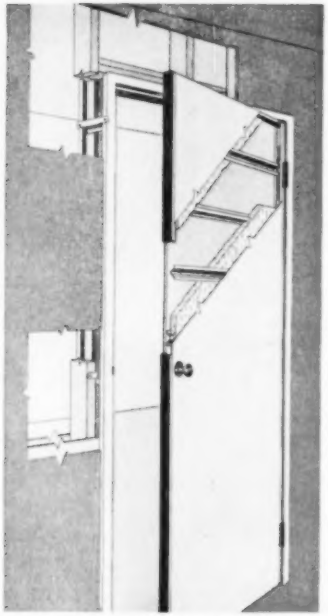
Specify that your rugs and carpets be laid over Spongex Ripple. Clients and patrons will thrill to the luxurious comfort of this amazing rug cushion. And Ripple's low cost will please the man who pays the bill. Ripple is available in weights of 45 and 60 oz. per sq. yd. For free samples and further information about Ripple see your floor covering dealer, or write us today.

THE SPONGE RUBBER PRODUCTS COMPANY
561 Derby Place, Shelton, Conn.

ANOTHER SPONGEX PRODUCT

HOW TO GIVE YOUR CLIENTS GREATEST DOOR AND FRAME VALUE

VMP Steel Doors and Frames and Bi-Pass Units Never Warp, Sag, or Crack.



You want doors and frames that give longer service and assure maximum client satisfaction. That means steel doors and frames! For only steel—not wood, not any substitute material, guarantees no dimensional change. Guarantees that your clients will be more satisfied now — more satisfied for years to come.

Virginia Metal Products manufactures the most complete line of steel doors and frames for every wall construction. Specify steel, specify VMP!

FREE: Cutaway isometric drawings and specification paragraphs. Write today. Dept. B-5

VIRGINIA METAL PRODUCTS
CORPORATION
87 Thomas Street, New York 13, New York

Approved* Method of Cutting Costs in School Design

In-wall
FOLDING
TABLES AND BENCHES

COMBINE LUNCHROOM AND ACTIVITIES AREAS . . . ELIMINATE A SINGLE-PURPOSE ROOM!

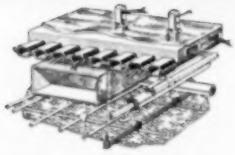
● See Sweets Architectural File for details on this multiple-use-of-space equipment. Proven and accepted as practical by school officials and installed in hundreds of schools from coast to coast.

***ALREADY SPECIFIED BY HUNDREDS OF SCHOOL ARCHITECTS. WRITE FOR THE LIST**

SCHIEBER MANUFACTURING COMPANY
12730 BURT ROAD ● DETROIT 23, MICH.

Time is your variable

ROBERTSON PRE-ENGINEERED MATERIALS CUT CONSTRUCTION COST



Q-FLOORS

two men can lay 32 sq. ft. in 30 seconds!

These are steel subfloors. They are installed as fast as the frame is erected. Therefore they form immediate and permanent platforms for all subcontractors. By properly organizing the work, a contractor can cut 15 to 20% off over-all construction time. The architect saves a great deal of drafting time.

The steel cells of Q-Floor become raceways for all electrical systems. An electrician drills only a small hole and installs an outlet on any six-inch area of floor in a matter of minutes. Desks, business machines and partitions can be located with complete freedom, after tenants move in.

Q-PANELS

50 sq. ft. of insulated, finished wall in 9 minutes!

Q-Panels are only 3″ thick but have greater insulation value than a 12″ masonry wall. They arrive at the site cut to fit and are quickly attached to the steel frame.

The inside surface is a metal sheet, then comes insulation, then the outer skin of fluted aluminum, Galbestos, stainless or metal-coated steel, depending upon the utility and architectural requirements.

Q-GALBESTOS

METAL SIDING & ROOFING enables workmen to cover up to 2½ times as much area as competitive materials.

Galbestos metal is the ideal material for corrosive industrial exposures, withstanding the most extreme climatic conditions, and requires no maintenance.

Galbestos is steel to which asbestos felt is metallically bonded. The felt is then impregnated with asphalt and weatherproofed. Available in various forms, in two standard widths and in lengths up to 12 feet. Galbestos has been tested and classified by Underwriters' Laboratories, Inc., and Factory Mutual Laboratories. It is available in black or maroon or can be field painted.

Galbestos roofing and siding is fastened by the exclusive Robertson Top-Speed Method, a completely new system which eliminates all interior scaffolding. This is why Galbestos is faster to erect. It can be insulated by an equally fast method, greatly reducing construction cost for heated buildings.

WHAT WE REALLY MAKE IS TIME

WRITE FOR THESE FREE CATALOGS

1. Q-Floors
2. Q-Panels
3. Galbestos
4. Top-Speed Fastening for Galbestos
5. Top-Speed Insulation for Galbestos

H. H. ROBERTSON CO.

2405 Farmers Bank Building
Pittsburgh 22, Pennsylvania

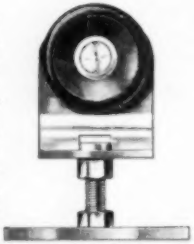
Offices in ALL Principal Cities in the U. S. A. and Canada

World-Wide Building Service

Our Architect
SAVED us SPACE and TROUBLE
by using Rolling Doors with
HAR·VEY HARDWARE!

★ No Corrosion ★ No Maintenance
★ No Jumping Track ★ No Sticking
★ No Installation Troubles

When you save space with rolling doors, be sure to save *grief* as well – for yourself *and* the home-owner! Har-Vey Hardware is easy to install and *completely rustproof* – its hanger cannot jump the track – its durable Formica roller glides smoothly and silently on oil-cushioned, self-lubricating bearings that never squeak or need attention. Har-Vey gives you quality that pays dividends in trouble-free performance – for a lifetime!



Sizes for all residential doors

Champion Quality pays dividends – always!

Write for complete details today
Address: **Hardware Division "P"**

METAL PRODUCTS CORPORATION
807 N. W. 20th St. Miami, Florida

Please send me your free folder on rolling doors & Har-Vey Hardware

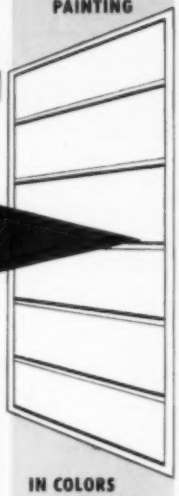
NAME _____
COMPANY _____
STREET _____
CITY _____ STATE _____
YOUR DEALER'S NAME _____

years of experience make this a SAFE SPECIFICATION

NEEDS NO PAINTING

PAINT FIRST THEN GLAZE WITH

TREMGLAZE
MASTIC GLAZING COMPOUND



Architects safely specify TREMGLAZE Mastic Glazing Compound because time has proved its ability to withstand weather, steam, fumes and condensation without being painted over. TREMGLAZE speeds up the job, eliminates cost of painting over, saves time and money on clean-up labor. TREMGLAZE meets Aluminum Window Manufacturers Association standards.

CALL THE LOCAL TREMCO MAN OR WRITE

IN COLORS FOR METAL OR WOOD WINDOWS

THE TREMCO MANUFACTURING CO.
CLEVELAND and TORONTO

mitchell lighting

easiest to specify
easiest to install

save time, specify properly for every lighting need with these 2 data-packed catalogs

Commercial Fluorescent Lighting
More than 70 superb Commercial Luminaires, described in detail—for quick, tailored-to-the-job specification...

"Dynalite" Lighting for Industry
You'll find it easy to specify for any industrial installation. Choose from 82 *Dynalite* Job-Rated units...

SEND FOR BOTH

Specify MITCHELL—the sensibly-priced *quality* lighting—designed for time-saving installation, low-cost maintenance, highest efficiency. For easy planning, write for these two data-packed MITCHELL catalogs.

MITCHELL MANUFACTURING COMPANY
2525 N. Clybourn Avenue, Dept. Chicago 14, Illinois

Waiting Room — Southeastern Greyhound Bus Terminal, Birmingham, Alabama

These monolithic ceilings were sound-conditioned with a trowel

HERE'S how to speed up many jobs and keep costs down —specify Gold Bond Acoustical Plaster and let your contractor sound-condition and decorate the ceilings in one easy continuous operation. Gold Bond Acoustical Plaster is:

ECONOMICAL. Provides incombustible acoustical treatment at low cost.

ARCHITECTURALLY FLEXIBLE. May be applied to flat or curved surfaces. Also to existing ceilings after applications of an asphalt emulsion bonding coat.

EASY TO APPLY. Gold Bond Acoustical Plaster can be applied by any journeyman plasterer to the regular base coat of gypsum plaster. It's light on the hawk, extremely easy to work.

ATTRACTIVE. Gives the beauty of plaster—a smooth, unbroken surface that may be troweled or floated. Furnished in five colors…oyster white, ivory, cream, buff and caenstone.

FIRE RESISTANT. Basically a mineral product, Gold Bond Acoustical Plaster is incombustible.

NON-GLARE LIGHT REFLECTION. Oyster white…70%.

NOISE REDUCTION. .55 to .60 floated or troweled to finish.

PAINTABILITY. Tests with six coats sprayed-on paint showed no loss in acoustical efficiency.

Gold Bond Acoustical Plaster Technical Folder, A.I.A. 39-B-1 supplied without charge upon request.

NATIONAL GYPSUM COMPANY • BUFFALO 2, N. Y.

Lath, Plaster, Lime, Sheathing, Gypsum Roof Decks, Wall Paint, Textures, Rock Wool Insulation, Metal Lath, Sound Control Products, Fireproof Wallboards and Decorative Insulation Boards.

You'll build or remodel better with Gold Bond

Lunch Room — Southeastern Greyhound Bus Terminal, Birmingham, Alabama

GUTH WYTE-LINER

with AIRFLOW channel

a new idea in factory lighting as different as white from black

white inside and OUTSIDE
the white upside helps lift ceiling gloom, reduces strong shadows and improves brightness-contrast ratios

surface 300° Permalux or Porcelain Enamel
Airflow Channel circulates air for longer ballast life
easy to clean, easy to install
Wyte-Liners are made in 2 and 3 conventional 40-watt light units, also for 4- and 8-ft. Slimline lamps
write for our FREE 16-page catalog

Guth LIGHTING
THE EDWIN F. GUTH COMPANY / ST. LOUIS 3, MISSOURI

Leaders in Lighting since 1902

MEASURE
- AIR VELOCITY
- AIR TEMPERATURE
- STATIC PRESSURE

with the

ANEMOTHERM AIR METER

Use the precision-made Anemotherm Air Meter to check and balance heating, ventilating and air conditioning systems. This portable, self-contained instrument gives direct, instantaneous readings of air velocity from 10fpm to 6,000fpm, air-temperature from 30F to 155F and static pressure from 0 to 4 neg. and from 0 to 10 pos. in. wg. Send for illustrated Bulletin.

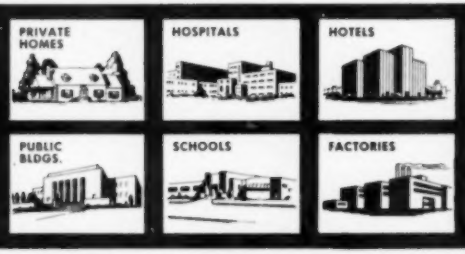
ANEMOSTAT CORPORATION OF AMERICA
10 EAST 39 STREET, NEW YORK 16, NEW YORK AC 1281

THERE'S AN AUTOMATIC

JOHNSON *Oil* BURNER

Famous for high efficiency since 1903

FOR EVERY HEATING NEED!



For Steam, Hot Water, Hot Air Systems. Engineered and built to produce a maximum of usable heat from minimum fuel consumption, Johnson Oil Burners are known and respected the world over. There's a Johnson Burner dealer near you.

Johnson Oil Burners

S. T. JOHNSON CO.
940 Arlington Ave. • Oakland 8, Calif.
401 No. Broad St. • Philadelphia 8, Pa.

Quality brands in pencil erasers

Each of these famous erasers serves a special purpose. Have them both handy for just the right touch you require — to assure clean and thorough erasing.

. . . and in rubber erasers — it's Goodyear!

THE ROSENTHAL CO., 45 EAST 17th STREET, NEW YORK 3

THE NEW

Crawford MARVEL-LIFT

Riviera

America's most beautiful GARAGE DOOR

The new Riviera is the most brilliant and versatile door design created in our 21 years of door specialization.

It has the gift of looking ultra-modern on a long, low rambling modern house and quietly dignified on a formal colonial.

It creates the effect of having been custom-built for any house you put it in but the price-tag says otherwise.

CRAWFORD DOOR COMPANY

Main Plant: 94-401 St. Jean Ave., Detroit 14, Michigan

EXCLUSIVE NEW MAGI-COTE PROTECTIVE TREATMENT

Every Crawford door is protected by the new Magi-Cote Process—a three minute immersion in clear Magi-Cote liquid which seals all wood surfaces against moisture, termites, fungi, dry-rot, etc.—exclusive in Crawford-built doors (east of the Rockies).

Why contend with

BLOW

The main source of Air Conditioning complaints?

Specify **MULTI-VENT** ®
Low Velocity Air Diffusion CEILING PANELS

Multi-Vent's unique pressure displacement principle of air distribution is completely free from BLOW or THROW (high velocity injection), the main source of draft hazards . . . thereby eliminating all of the most serious installation, balancing, and adjustment problems inherent in the velocity injection principle upon which all air diffusers except Multi-Vent depend.

The absence of high velocity air streams makes possible an unparalleled uniformity and control of air temperature and air motion . . . complete freedom in location movable partitions . . . more room air changes per hour with less air motion . . . and complete concealment of outlet behind standard acoustical ceiling pans.

Write for detailed literature and the name of the Multi-Vent sales engineer in your vicinity.

● *MULTI-VENT DIVISION*
THE PYLE-NATIONAL COMPANY
1379 N. Kostner Ave. Chicago 51, Ill.

There is no substitute for

marble

The Marble Institute of America protects your heritage in one of America's great industries. Each of its members is pledged to provide the finest of materials, finished in America, by Americans, no matter what its source. You can depend on the integrity of your local M.I.A. member.

Literature is available to assist you in your contact with clients. For this, or technical data, or for a complete list of M.I.A. members, write the Managing Director:

MARBLE MIA INSTITUTE OF AMERICA, INC.
108 FORSTER AVENUE, MOUNT VERNON, N. Y.

. . . the most complete and exciting line of decorative clay tile available today. In 34 stock patterns, Ceratile gives new beauty and design to residential, commercial and institutional interiors . . . can be frostproofed for exterior use in freezing climates. For full information write to Dept. PA-5

THE CAMBRIDGE TILE MFG. CO.
Authorized Distributors of Ceratile
P. O. BOX 71, CINCINNATI 15, OHIO

NATCOR
STORE FRONT CONSTRUCTION

Meets the demand for new and advanced architectural trends—permits unlimited creative applications.

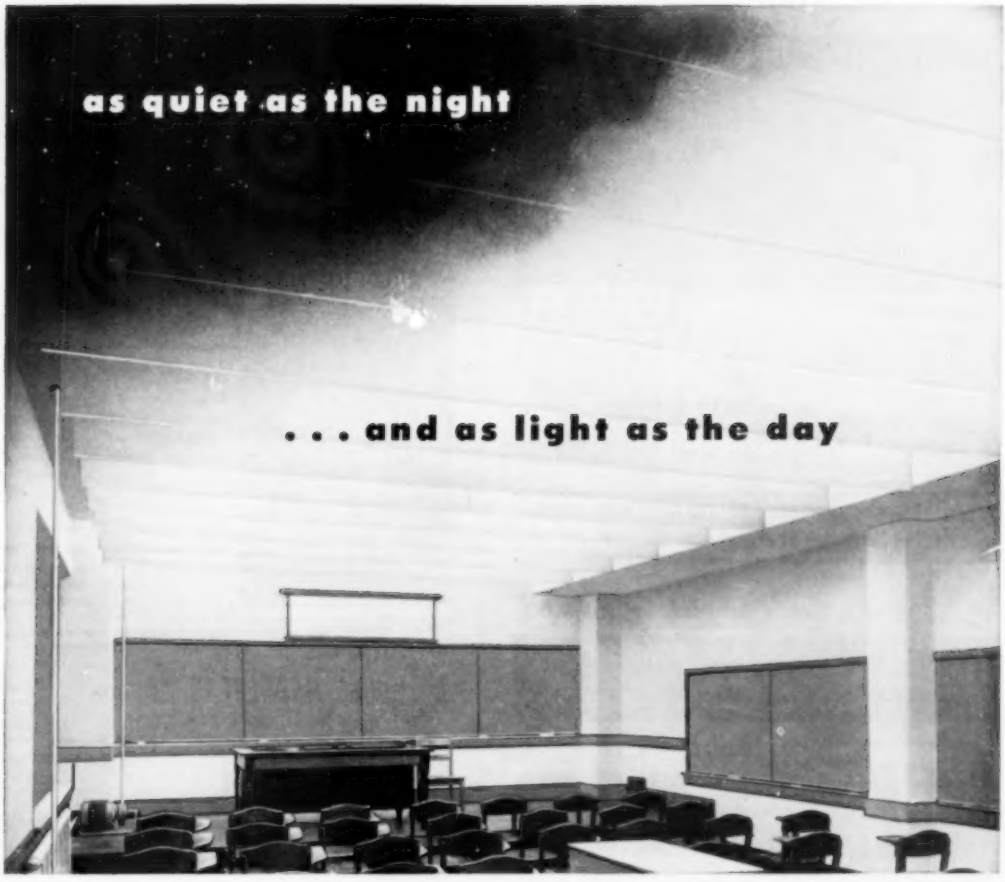
Shoppers prefer Stores with a NATCOR Front . . .
Because . . . "NATCOR has the appeal that invites them in" . . . By specifying NATCOR for Store Fronts and Entrances . . . You increase your clients profits . . . SHOPPERS BECOME CUSTOMERS . . .

Details promptly furnished on request

See Our Catalog in Sweets

Natcor Store Fronts

TAUNTON, MASSACHUSETTS, U.S.A.



CURTIS

LIGHT SOUND CONDITIONING

SYSTEM

This New Light and Sound Conditioning System Will Give You the Most Modern Lighting Plus Efficient Acoustical Treatment At Low Cost

The Curtis Light and Sound Conditioning System provides quality, low brightness illumination and eliminates excessive sound reflections. The Lighting System consists of basic, extension, and wing sections which may be combined to accommodate any size schoolroom, office, auditorium or other interior.

The Sound System consists of vertical panels of high quality acoustical material with a high reflectance, flame retarding, washable finish. The acoustical panels are positioned between 96-inch T-12 fluorescent lamps.

Now you may have both fine lighting and sound conditioning at a low initial cost, low installation cost, low operating and low maintenance cost. Write today for further descriptive information.

CURTIS LIGHTING, INC.
Dept. E 34-05, 6135 West 65th Street
Chicago 38, Illinois

Name_____

Company_____

Address_____

City_____ State_____

See us at the 4th International Lighting Exposition in Cleveland, May 6-9.

CURTIS LIGHTING, INC. • Dept. E 34-05 • 6135 West 65th Street, Chicago 38, Illinois

GO ON FAST, GO ON FOREVER!

FEDERAL Featherweight STRUCTURAL CONCRETE PRECAST ROOF SLABS

CHANNEL ROOF DECK SLABS for use with composition covering. NAILING CONCRETE SLABS to hold securely, slate, tile, copper or other ornamental roof.

THE LIGHTWEIGHT, PERMANENT, FIRE-SAFE, NO MAINTENANCE ROOF DECK

SEE OUR CATALOG IN SWEET'S

Write for Complete Catalog!

FEDERAL CEMENT TILE COMPANY
608 South Dearborn Street — Chicago 5, Illinois
For Forty-five Years . . . . Sales Offices in Principal Cities

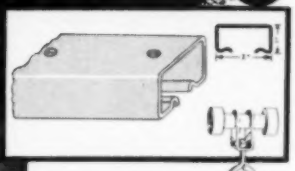
Kansas City, Kansas: 191 rooms in the new Town House Hotel are equipped with a Formica Vanitory.* A cheerful shade of red, the Formica offers stout resistance to abuses of careless travelers.

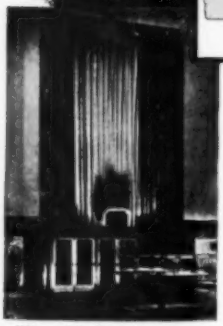
*Certification Mark
Eugene John Stern, Architect
Iowa Plastic Fabricators

Specify **"MONARCH"**
STAGE CURTAIN TRAVERSE TRACK & CARRIER

GOULD

FOR HEAVY DRAPERIES AND STAGE CURTAINS





"Monarch" Track installation in City National Bank of Houston, Houston, Texas. A. C. Finn, architect; Helene Sprang, decorator.

The double beads or ribs on both sides of the runways give powerful support and insure straight alignment—unique in this originally designed, improved track. In 12, 14, 16, and 18 foot lengths—as ordered.

No. 2701 — Track, Satine
No. 2703 — Track, Natural Steel
No. 2711 — "Monarch" Hard Fibre Roller Carrier. Fully muffles sound.

Gould Hardware is featured in Sweet's Catalogs, Series #19E/GO & #41/GO.

THE GOULD-MERSEREAU CO. INC.
35 West 44th St., New York 36, N. Y.

Write Today for Complete Catalog

MAGNALITE GLASS
OBSCURING – DIFFUSING
Manufactured by Mississippi Glass Co.

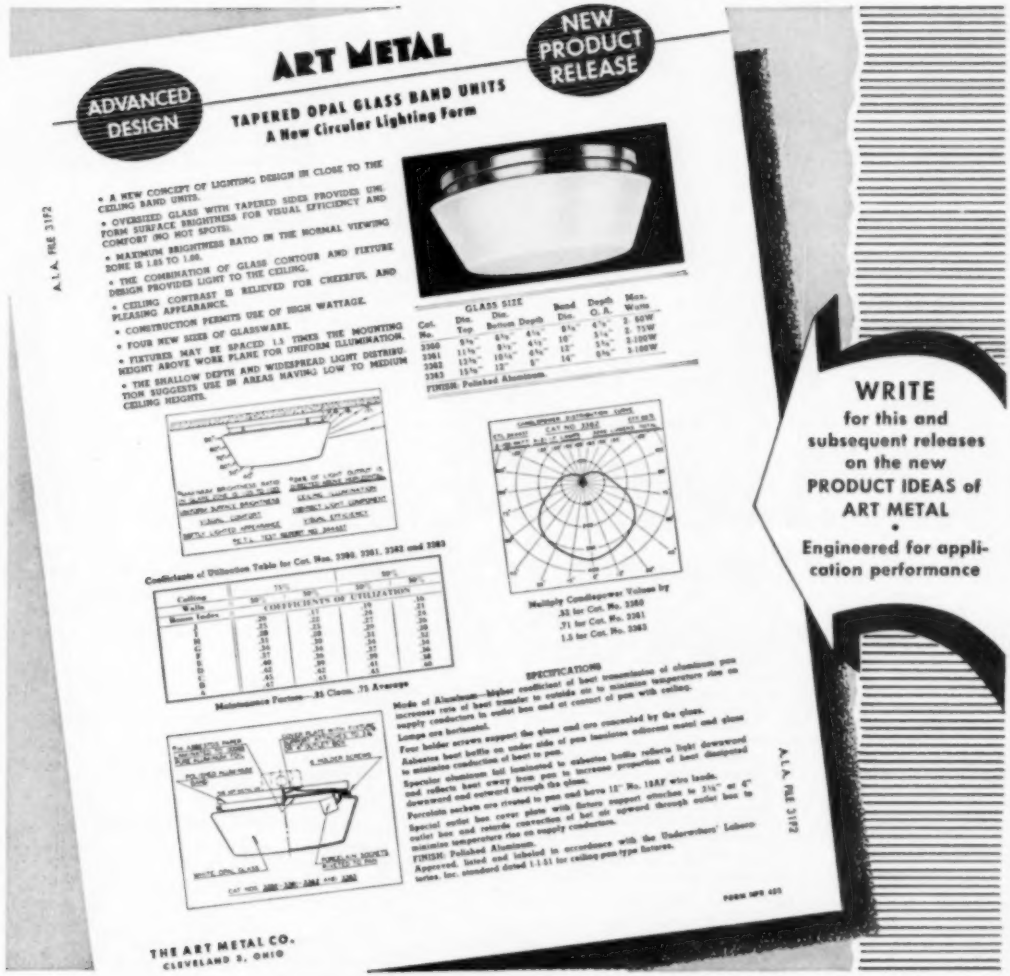
A specification for Magnalite guarantees visual privacy and an abundance of mellowed work light. This handsome glass lends character to the simplest glazing arrangements and is definitely up-to-date. Made almost ¼" thick it has rigidity and its smooth surfaces are easily kept clean.

Write for brochure M-52
Samples on request

J. MERRILL RICHARDS
25 Huntington Ave., Boston 16, Mass.

Boston Five Cents Savings Bank, Archie Riskin, Architect

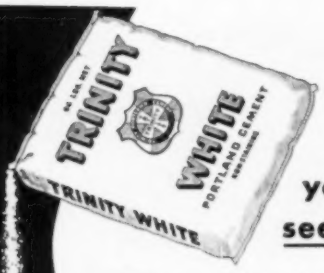
An ART METAL Original Design in INCANDESCENT LIGHTING


ART METAL
NEW PRODUCT RELEASE
ADVANCED DESIGN
TAPERED OPAL GLASS BAND UNITS
A New Circular Lighting Form
• A NEW CONCEPT OF LIGHTING DESIGN IN CLOSE TO THE CEILING BAND UNITS.
• OVERSIZED GLASS WITH TAPERED SIDES PROVIDES UNIFORM SURFACE BRIGHTNESS FOR VISUAL EFFICIENCY AND COMFORT (NO HOT SPOTS).
• MAXIMUM BRIGHTNESS RATIO IN THE NORMAL VIEWING ZONE IS 1.65 TO 1.00.
• THE COMBINATION OF GLASS CONTOUR AND FIXTURE DESIGN PROVIDES LIGHT TO THE CEILING.
• CEILING CONTRAST IS RELIEVED FOR CHEERFUL AND PLEASING APPEARANCE.
• CONSTRUCTION PERMITS USE OF HIGH WATTAGE.
• FOUR NEW SIZES OF GLASSWARE.
• FIXTURES MAY BE SPACED 1.5 TIMES THE MOUNTING HEIGHT ABOVE WORK PLANE FOR UNIFORM ILLUMINATION.
• THE SHALLOW DEPTH AND WIDESPREAD LIGHT DISTRIBUTION SUGGESTS USE IN AREAS HAVING LOW TO MEDIUM CEILING HEIGHTS.
GLASS SIZE
Cat. No. | Dia. Top | Dia. Bottom | Band Depth | Dia. | O. A. Depth | Max. Watts
3380 | 9¾" | 6¾" | 4½" | 10" | 5¼" | 2-60W
3381 | 11¾" | 8¾" | 4½" | 12" | 5¾" | 2-75W
3382 | 13¾" | 10¾" | 4¾" | 14" | 6¾" | 3-100W
3383 | 15¾" | 12" | 5" | 16" | 6¾" | 3-100W
FINISH: Polished Aluminum.
Coefficients of Utilization Table for Cat. Nos. 3380, 3381, 3382 and 3383
Ceiling 70% | 50% | 30% | 0%
Walls 50% | 30% | 10% | 0%
Room Index | COEFFICIENTS OF UTILIZATION
Maintenance Factors—.85 Clean, .75 Average
Multiply Candlepower Values by
.52 for Cat. No. 3380
.71 for Cat. No. 3381
1.5 for Cat. No. 3383
SPECIFICATIONS
Made of Aluminum—higher coefficient of heat transmission of aluminum promotes rapid heat transfer to outside air to maximum temperature rise on supply conductors in outlet box and at contact of post with ceiling.
Lamps are horizontal.
Four holder screws support the glass and are concealed by the glass.
Asbestos heat baffle on under side of post insulates adjacent metal and glass to minimize conduction of heat to post.
Specular aluminum foil laminated to asbestos baffle reflects light downward and reflects heat away from post to increase proportion of heat dissipated downward and outward through the glass.
Porcelain sockets are riveted to post and have 12" No. 18AF wire leads.
Special outlet box cover plate with fixture support stinchers to ¾" or 4" outlet box and retards convection of hot air upward through outlet box to minimize temperature rise on supply conductors.
FINISH: Polished Aluminum.
Approved, listed and labeled in accordance with the Underwriters' Laboratories, Inc. standard dated 1-1-51 for ceiling post type fixtures.
A.I.A. FILE 31F2
A.I.A. FILE 31F2
FORM NPR 405
THE ART METAL CO.
CLEVELAND 3, OHIO
WRITE
for this and subsequent releases on the new PRODUCT IDEAS of ART METAL
•
Engineered for application performance

THE ART METAL COMPANY

CLEVELAND 3, OHIO

Manufacturers of Engineered Incandescent Lighting



you can **see** that

Trinity White

is the **whitest** white cement!

You'll get fine results with this extra white cement. It's true Portland Cement made to ASTM and Federal Specifications. If your dealer does not have it, write the office nearest you: Trinity Portland Cement Division, General Portland Cement Co., 111 West Monroe St., Chicago; Republic Bank Bldg., Dallas; 816 W. 5th St., Los Angeles.

as white as snow

Good News Now Printed in RED for Easier Tracing

Perspective Charts

By PHILIP J. LAWSON

These 8 labor-saving charts have proven a blessing wherever accurate construction of instrumental perspective drawings of architecture, furniture, industrial design, etc., is required. Now printed in red, they will save even more time and drudgery than ever before as the color will be easily distinguished from the tracings. In using the charts, you merely lay tracing paper over the chart which suits your purpose and, following the directions given, proceed at once with your work. You trace such lines or utilize such measurements as your problem demands. By eliminating the necessity of establishing distant vanishing points these charts save drawing board space, at the same time keeping every line in its true perspective direction. And if you desire, the charts can be used backwards: Design your subject on the chart in perspective, then use it to analyze the dimensions.

8 charts . . . 21 x 24 with detailed instructions, per set . . . $3.50

FREE EXAMINATION! Mail This Coupon Today

REINHOLD PUBLISHING CORP.
Dept. M-366, 330 W. 42nd St., New York 18, N. Y.

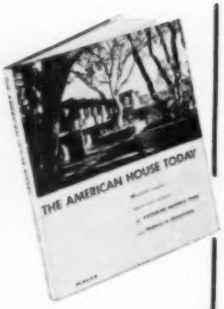
Send for 10 days' FREE EXAMINATION one set of Lawson PERSPECTIVE CHARTS (printed in RED) to:

Name .....

Address .....

.....

City ..... Zone ..... State .....



by

KATHERINE MORROW FORD
Head of Public Relations, Knoll Associates; formerly Architectural Editor, House & Garden

and

THOMAS H. CREIGHTON
Editor, Progressive Architecture

for home planners everywhere!

The American House Today

The number-one book on America's number-one interest today . . . homes!

This beautiful new volume shows 85 BEST contemporary houses—from all sections of the country—complete with photographs and construction plans.

The houses shown are *truly today's*—all being built in the past five years. Each house is selected for its demonstration of a unique principle of convenience, comfort, beauty or other special aspect. Included are houses typifying such considerations as indoor-outdoor relationships, expansion possibilities, individual or family requirements, provisions for hobbies or special pursuits, vacation houses, subdivision houses, country and city houses, flat land and hill site houses . . . scores of *livable* houses, each an expression of individual purpose and plan.

The book is replete with explanatory text and profusely illustrated with over 500 faithfully-reproduced photographs and detailed construction plans. The program, site, space organization, environmental influence, construction, materials, appearance and other basic factors relating to each house are fully described.

For circulation or reference, here is an important book for home-owners, architects, builders, designers, realtors, students and all those concerned with owning or improving houses.

239 Pages, with 500 illustrations $7.95

To examine this book for 10 days FREE, mail coupon now

REINHOLD BOOK DIVISION
Dept. M-382, 330 West 42nd St., New York 36, N. Y.

Please send me a copy of THE AMERICAN HOUSE TODAY @ $7.95.

☐ Remittance enclosed.

☐ Send on free 10-day examination.

Name ..... (Please print)

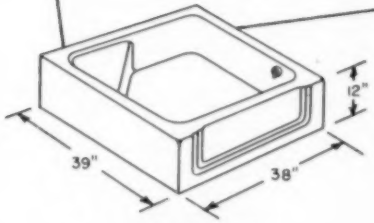
Address .....

City .....Zone .....State .....

NOTE: You save postage and delivery charges by sending payment with order. Same return privilege guaranteed. Include 3% sales tax on N.Y.C. orders.

AMERICAN-Standard
BATHROOMS

To help you pack a lot of bathing convenience into a limited space



LITTLE IN SIZE
BIG IN CONVENIENCE

The 12" high Restal fits a finished compartment approximately 36" x 37", yet affords complete bathing facilities. It has all the advantages of sturdy construction, being made of rigid cast iron smoothly coated with acid-resisting or regular enamel in white or five popular colors. It comes with left or right hand outlet. Streamlined fittings are of non-tarnishing Chromard.

...here's the new
RESTAL Receptor Bath

THE new Restal receptor bath provides complete bathing convenience in a shower stall space. And its cost is comparable with that of a properly-installed conventional shower stall.

Doubling as both a shower receptor and a bath, the Restal permits you to add an extra *complete* bathroom in small space in the homes you plan. And when it comes to modernizing, you can turn an unused closet, alcove, or sewing room into a really complete bathroom with the help of this space-saver. The Restal is ideal for use in small bathrooms of apartments, hotels, and motels, too.

Designed for utmost convenience and safety, the Restal is so low that even elderly people can enter and leave it with safety. Its corner seat facilitates foot and sponge bathing. And the Restal is particularly useful when bathing children.

Consider the Restal receptor bath in your planning. It will help you give more client convenience in minimum space. For complete details, contact the American-Standard sales office serving you or write for literature—Form No. 227.

American Radiator & Standard Sanitary Corporation, Dept. PA-52, P. O. Box 1226, Pittsburgh 30, Pa.

Serving home and industry

AMERICAN-STANDARD · AMERICAN BLOWER · ACME CABINETS · CHURCH SEATS · DETROIT LUBRICATOR · KEWANEE BOILERS · ROSS HEATER · TONAWANDA IRON

DIRECTORY OF PRODUCT ADVERTISERS

Adam, Frank, Electric Co. 165
Aerofin Corp. 32
Aetna Steel Products Corp. 11
Air Devices, Inc. 183
Allegheny Ludlum Steel Corp. 189
Allen, W. D. Mfg. Co. 172
American Brass Co. 157
American-Olean Tile Co. 37
American Radiator & Standard Sanitary Corp. 209
American Structural Products Co. 177
Anemostat Corporation of America 202
Armstrong Cork Co. 13
Art Metal Co., The 207
Associated Business Publications 178

Bakelite Co., a Division of Union Carbide & Carbon Corp. 59
Barber-Colman Co. 194
Benjamin Electric Manufacturing Co. 171
Brasco Mfg. Co. 56
Breidert, G. C., Co. 190
Bruce, E. L., Co. 25
Bryant Heater Div. 144

Cabot, Samuel, Inc. 150
California Redwood Association 149
Cambridge Tile Mfg. Co. 204
Canvas Awning Institute, Inc. 29
Carpenter, L. E., & Co., Inc. 133
Ceco Steel Products Corp. 193
Celotex Corp. 19, 181
Certified Equipment Manufacturers, Ballast Manufacturers 147
Chase Brass & Copper Co. 175
Clancy, J. R., Inc. 192
Committee on Steel Pipe Research of the American Iron & Steel Institute 58
Concrete Reinforcing Steel Institute 194
Congoleum Nairn, Inc. 134, 135
Connor, W. B., Engineering Corp. 35
Corbin, P. & F. Div. 22, 23
Coyne & Delany Co. 17
Crane Co. 188
Crawford Door Co. 203
Curtis Companies Service Bureau 169
Curtis Lighting, Inc. 205

Day-Brite Lighting, Inc. 52, 53
Douglas Fir Plywood Asn. 138, 139
Duriron Co., Inc. 145

Edwards Co. 156
Elkay Manufacturing Co. 164
Erie Enameling Co. 152

Federal Cement Tile Co. 206
Federal Seaboard Terra Cotta Corp. 128
Fenestra Building Products 28, 191
Fiat Metal Manufacturing Co. 154
Fleur-O-lier Manufacturers 27
Formica Co. 206

Georgia Pacific Plywood Co. 43, 184, 185
Glide Windows, Inc. 166
Gould-Mersereau Co., Inc. 206
Granco Steel Products Co. 159
Guth, Edwin F., Co. 202

Heatilator, Inc. 113
Henschel, John, & Co., Inc. 178
Hillyard Sales Co. 158
Hoffman Specialty Co. 167
Holophane Co. 55
Hood Rubber Co. 148
Horn, A. C., Co., Inc. 33

Infra Insulation, Inc. 14
Inland Steel Products Co. 2nd Cover
Insulite Div., Minnesota & Ontario Paper Co. 50, 51

Johns-Manville Corp. 38
Johnson, S. T., Co. 202

Kaiser Aluminum 136, 137
Kentile, Inc. 126
Kwikset Locks, Inc. 2

LCN Closers, Inc. 163
Lees, James, & Sons Co. 6, 7
Libbey-Owens-Ford Glass Co. 26, 124
Lone Star Cement Corp. 60
Louisville Cement Co. 187
Loxit Systems, Inc. 146

Macomber Inc. 54
Mahon, R. C., Co. 5
Marble Institute of America Inc. 204
Master Builders Co. Back Cover
Medart, Fred, Products, Inc. 151
Metal Products Corp. 200
Metal Tile Products, Inc. 192
Miami Window Corp. 132
Minneapolis Honeywell Regulator Co. 44, 45
Mississippi Glass Co. 21
Mitchell Mfg. Co. 200
Morgan Co. 112

Natcor Store Fronts 204
National Fireproofing Corp. 174
National Gypsum Co. 201
Nelson, Herman, Division American Air Filter Co., Inc. 140, 141
New Castle Products 42
Nova Sales Co. 40

Onan, D. W., & Sons, Inc. 176
Otis Elevator Co. 180

Parkwood Laminates, Inc. 190
Pittsburgh Plate Glass Co. 46, 47
Pittsburgh Reflector Co. 195
Pittsburgh Steel Products Co. 54
Portland Cement Assn. 24
Powers Regulator Co. 161
Protexol Corp. 10
Pyle-National Co. 8, 204

R. C. A. Rubber Co. 31
Reinhold Publishing Corp. 208, 211
Revere Copper & Brass, Inc. 3d Cover
Richards, J. Morrill 206
Robertson, H. H., Co. 199
Roddis Plywood Corp. 36
Rohm & Haas Co. 153
Rosenthal Co. 202
Rotary Lift Co. 176
Russell & Erwin Div. 142, 143

Schieber Sales Co. 198
Schlage Lock Co. 173
Schundler, F. E., & Co., Inc. 196
Scott Paper Co. 30
Sika Chemical Corp. 176
Sloane Blabon Corp. 130
Smithcraft Lighting Div. 39
Sponge Rubber Products Co. 197
Stoedler, J. S., Inc. 172
Superior Electric Co. 160
Swartwout Co. 18

Tile-Tex Division 155
Timber Engineering Co. 20
Timber Structures, Inc. 41
Trane Co. 48, 49
Tremco Mfg. Co., The 200
Trinity Division, General Portland Cement Co. 208

Union Carbide & Carbon Corp., Bakelite Co. 59
United States Gypsum Co. 57
United States Plywood Corp. 114, 122
United States Quarry Tile Co. 12

Viking Tile Corp. 196
Virginia Metal Products Corp. 198

Wallace, William, Co. 162
Washington Steel Corp. 179
Waylite Co. 34
Wiley, R. & W., Inc. 168
Wilson Engineering Corp. 182

Youngstown Sheet & Tube Co. 186

ADVERTISING AND EXECUTIVE OFFICES

330 West Forty-Second Street, New York 18, N. Y. BRyant 9-4430

JOHN G. BELCHER, *Vice Presidents & Publisher*

FRANK J. ARMEIT, *Production Manager*

JOHN CUNNINGHAM, *Promotion Manager*

NEW YORK OFFICE:
EDWARD D. BOYER, *Eastern Division Mgr.*
HAROLD D. MACK, JR., *New England District Mgr.*
WM. B. REMINGTON, *N. Y.-N. J. District Mgr.*

CLEVELAND OFFICE:
630 Terminal Tower, Cleve. 13. PRospect 1-5583
BRAD WILKIN, *Division Manager*
JOHN W. BATTLES, *District Mgr.*

CHICAGO OFFICE:
111 W. Washington St., Chicago 2. RAndolph 6-8497
DAVID B. HAGENBUCH, *Division Mgr.*
R. J. CLAUSSEN, *District Mgr.*

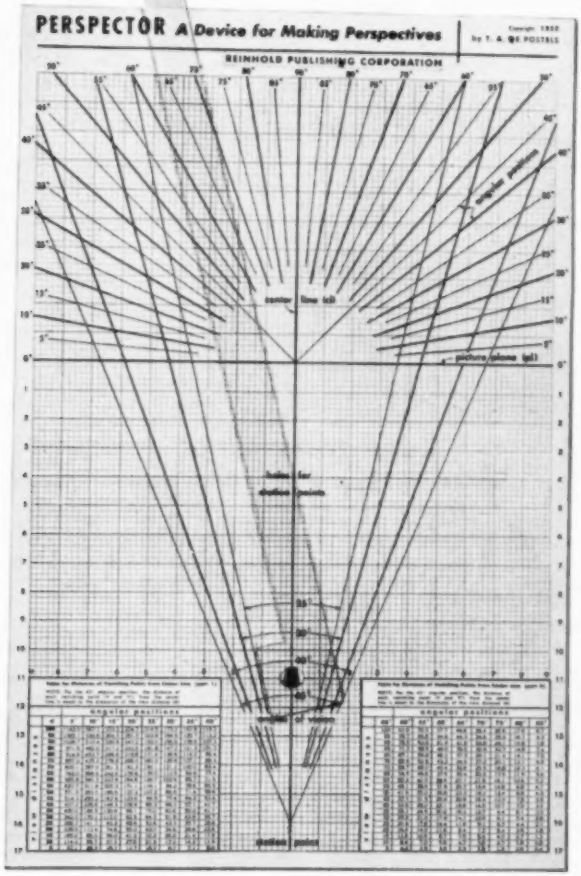
WEST COAST ADVERTISING REPRESENTATIVES

San Francisco, Calif.—Duncan Scott & Co., Mills Building, Garfield 1-7950
Los Angeles, Calif.—Duncan Scott & Co., 2978 Wilshire Blvd., Dunkirk 8-4151

Now ... exact perspectives in a fraction of the usual time

The PERSPECTOR

by Theodore A. De Postels,
Architect, Author of "Fundamentals of Perspective"



A New Invention

Nothing remotely like the Perspector has ever appeared. Here is an amazing device that enables you to make perspective drawings, angular and parallel, of exterior and interior views in a fraction of the time normally required. It is the result of many years of development on the part of Dr. De Postels, author of the "Fundamentals of Perspective" which has already sold the remarkable number of 15,000 copies.

The Perspector guarantees a mathematically correct perspective when handled according to the clear, concise directions provided on the portfolio. With this efficient tool, you can quickly draw as many different views as you wish—all from the same plan and elevation.

You'll Use It Again and Again

Architects, engineers, draftsmen, artists—anyone who makes perspectives will be delighted with this time-saver. Both beginners and seasoned specialists will find many years of practical use for the Perspector in such fields as building, interiors, landscapes, painting, sculpture, drafting, engineering and advertising design.

No other device is available which combines such accuracy with low price, speed and ease of operation. Don't miss it. Send for your copy and examine it on approval.

1952 • complete with instructions • $10.00

use this coupon *for* ten-day free examination

REINHOLD PUBLISHING CORPORATION
Dept. M-381—330 West 42nd St., New York 36, N. Y.

Please send me a copy of The PERSPECTOR by Theodore A. De Postels @ $10.00.

☐ **Remittance enclosed.** ☐ **Charge.** ☐ **Send on free 10-day examination (in U. S. only).**

NAME .....
(Please Print)

ADDRESS .....

CITY ..... Zone..... STATE.....

NOTE: You save postage and delivery charges by sending payment with order. Same return privilege guaranteed. Include 3% sales tax on N.Y.C. orders.

P.S.

There is a pressing need for co-ordinated action on architectural registration laws in the United States. The present situation is an alarming one, as Bernard Tomson points out in his column IT'S THE LAW in this issue of **P/A**. Tomson's comments are factual and—under the circumstances—mild. He has been asked to speak at a number of regional and state conventions around the country, and, knowing that registration problems are of interest everywhere, he has studied local situations in detail. He finds that current or proposed changes in existing laws are often weakening rather than strengthening. Further, he finds that architects in states with the same problems as those in other states are not pooling their experiences, and that there is apparently no co-ordination of efforts on a national scale.

Tomson proposes a "uniform" statute, which could be used, with whatever local variations seemed desirable or necessary because of particular conditions, by any state group facing up to the problem. He suggests a national conference to be called "as soon as it can be arranged" to study this problem on a co-ordinated basis. **P/A** strongly supports this suggestion. Since there is to be a national convention of the A.I.A. within a short time, it would seem desirable to have the question raised at that time, and to have the convention authorize a meeting on the subject.

It seems inconceivable that such a move has not been made before, but I have checked and found that, although several successive Educational Committees of the Institute have discussed registration matters, although the National Council of Architectural Registration Boards has made efforts at co-ordination, although many individuals and Chapters and State Associations have worked on the problem, and although the Burdell Commission has made new studies of registration in relation to education, there has apparently been no true major effort on a national scale to consolidate thinking—and legislation—about the licensing of architects.

The registration and licensing of architects is a subject on which there are many points of view within the profession. As a result of my several recent columns on the Georgia situation (I am very happy to see that Bernard Tomson now reports that the new Georgia law "is a long step in the right direction") I have had letters expressing almost every possible attitude. A number of engineer readers, faced with similar practice and registration problems of their own, look on a strong law regarding licensing of architects as a restriction of their own activities. A large number of younger men who have not yet secured licenses regard registration requirements as a restrictive measure on the part of older, well-established practitioners. While there may be elements of truth in these attitudes, I feel strongly that the basic need for regulating the practice of architecture exists and will become more apparent, and that most disapprovals which seem to be objective will be found to be based on present inequities, inconsistencies, and misuses which can be corrected.

These things *can* be corrected, for the benefit of everyone, only if there is a general understanding of the reasons for licensing, the most effective and the most fair legislative approach to licensing, and the most rational and efficient methods of carrying out the legal requirements. All the more reason for a meeting such as Tomson suggests, as soon as possible.

There is one further objection to registration laws and licensing examinations which deserves to be examined in further detail; it is the attitude of some fine designers who simply refuse to take the required examinations because they are sure they would be flunked, despite demonstrated abilities. This problem would be resolved if "design" in the limited sense were removed from the examinations. I imagine some of the readers of this column are getting tired of my harping on the subject, and I must admit support has been slim in quantity (though high in quality) for my insistence that a board of review, biased as any group of individuals must be, is no more qualified to license an architect on his design ability than it would be to license a painter or sculptor or writer. I am still sure in my own mind that I am right, however—that the only justifiable reason for licensing is public safety. I feel more sure because of several instances I have heard of recently where men who are top designers by objective criteria have actually been flunked for failing to pass a "design" examination. In one such case, a person whose work has been internationally published and acclaimed (jobs of his were listed by Eero Saarinen, Carroll Meeks, and Paul Thiry in the A.I.A. Journal's list of "What Buildings to See"), recently flunked the "design" part of the examination in one of the large states. He passed the technical and practice questions, but couldn't, according to the legal difinitions, "design" sufficiently well to be licensed as an architect. What utter nonsense!

Again, however, all these questions can be resolved (if we want them to be) by planning a conference, the purpose of which would be to co-ordinate, learn from lessons already taught the hard way in many places, and legislate rationally and effectively.

It may be that a meeting—the first meeting, let us say—should not go back to the broader questions I have raised, but rather stick to the more practical and immediate problems which friend Tomson is primarily concerned about. A conference is clearly necessary from that point of view, when one realizes the very shocking fact that the obviously ineffective "title" statute—the type which permits anyone at all to practice architecture so long as he doesn't use the title "architect"—is being adopted in some states, while others are fighting (sometimes successfully, as in the case of Georgia) to change a "title" statute to a "practice" statute—the type which allows no one to *practice* architecture unless he has fulfilled the registration requirements.

There are clearly two questions, ultimately—one is the type of legislation which controls registration; the other is the type of examination which implements the legislation. A rational method of attack would be to study the first one on a co-ordinated national scale, first. Then I hope the second one can be approached without prejudice and emotion, perhaps with some basis in the facts which presumably will come out of the full Burdell Commission report to be issued soon.

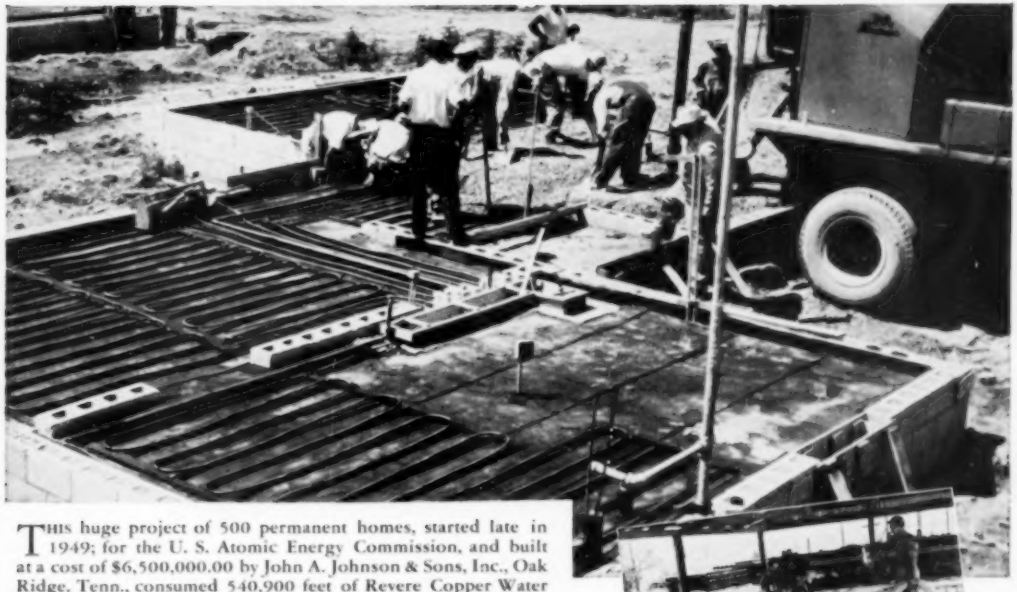
•

Sometimes it takes a long while for a work of architecture to reach fame. I am glad to see recognition coming to one very fine example, at last. In the folder issued by United States Travel Agency, Inc. (*not* a Government Agency) in the name of the American Institute of Architects, the important buildings to be seen on the post-Convention Architects' Trek to Europe, are mentioned and described briefly. I quote from the section about France:

"Our trip is highlighted by visits to chateaux and castles at Cheverny, Chemonceaux, and the celebrated cathedral at CHARTRES. Here we will view some of the finest XIIth and XIIIth Century stained glass windows, which were recently featured in TIME magazine as among the finest in the world."

Thomas H. Creighton

102½ MILES OF REVERE COPPER WATER TUBE AT OAK RIDGE, TENN.



THIS huge project of 500 permanent homes, started late in 1949; for the U. S. Atomic Energy Commission, and built at a cost of $6,500,000.00 by John A. Johnson & Sons, Inc., Oak Ridge, Tenn., consumed 540,900 feet of Revere Copper Water Tube. It was used for radiant panel heating, water lines and service connections.

In radiant panel heating you can't afford to take the slightest risk of materials failure. That's one big reason Revere Copper Water Tube has become so popular for this use. Architects and engineers like it because they know it will endure, makes for greater flexibility of design. Contractors and builders like Revere Copper Water Tube because it is non-rusting; costs less for workmen to install because its 60′ lengths are easy to handle and bend . . . requires fewer fittings than rustable, short-lived materials.

Although copper tube cannot now be used in civilian installations of radiant panel heating, we cite the Oak Ridge installation as a means of reminding you of the many merits of Revere Copper Water Tube over other materials so that when copper is once more permitted you will again use it. Meantime, you still can use Revere Copper Water Tube for underground service lines, domestic hot and cold water lines, industrial processing and for gas equipment.

See your Revere Distributor. He also will put you in touch with Revere's Technical Advisory Service in the event you wish to discuss technical problems.

REVERE

COPPER AND BRASS INCORPORATED

Founded by Paul Revere in 1801

230 Park Avenue, New York 17, N. Y.

• • •

Mills: Baltimore, Md.; Chicago and Clinton, Ill.; Detroit, Mich.; Los Angeles and Riverside, Calif.; New Bedford, Mass.; Rome, N. Y.— Sales Offices in Principal Cities, Distributors Everywhere

SEE "MEET THE PRESS" ON NBC TELEVISION EVERY SUNDAY

TO SAVE TIME AND MONEY IN HANDLING and installing the radiant panels for heating, the Revere Copper Water Tube was speedily bent into wooden forms by hand, then wired to temporary frames and stacked flat until needed. Tube sizes ran from ⅜" to 1¼".

VIEW AT OAK RIDGE, TENN., of the 500 permanent homes built for the U. S. Atomic Energy Commission. Architects—Skidmore, Owings & Merrill, Chicago, Ill., Oak Ridge, Tenn. Plumbing Contractor—Brown Plumbing & Heating Co., Birmingham, Ala. Revere Tube furnished by Crane Co., Birmingham, Ala.

Office and Warehouse La-Heet Stainless Steel Co., Los Angeles, Calif. — Archt. — Engr. — K. Bardizbanian; Gen'l. Contr. — Van Wagoner-Swan, Inc.; Pozzolith Ready-Mixed Concrete supplied by Consolidated Rock Products Co.—all of Los Angeles, Calif.

POZZOLITH READY-MIXED CONCRETE . . . Better, Faster, in Tilt-Up Construction . . .

reports general contractor

Pozzolith* Ready-Mixed Concrete is helping builders overcome the problems encountered in tilt-up construction.

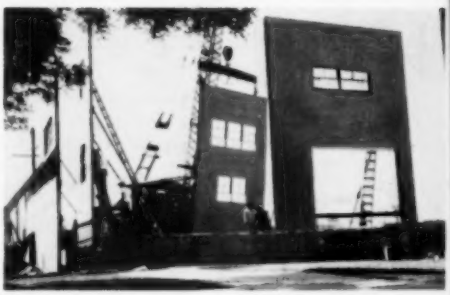
Well-known Los Angeles general contractor Van Wagoner-Swan, Inc., writes:

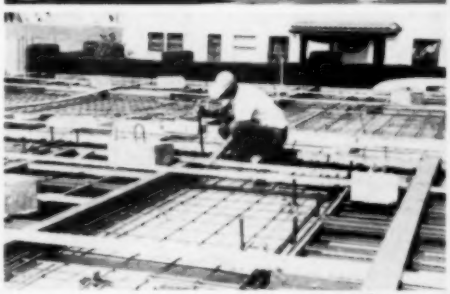
> "In the construction of our tilt-up concrete units, we have found that Pozzolith definitely decreases shrinkage and the cracking which results from this shrinkage.
>
> "Pozzolith also increases the strength of concrete, allowing us to shorten the time materially between casting and lifting. The decrease in water content with Pozzolith eliminates crazing of surface."

Whatever *your* concrete requirements, Pozzolith will enable you to obtain them *at lower cost than by any other means.*

Full information and Pozzolith booklet sent upon request.

* Pozzolith — the cement-dispersing, water-reducing agent which makes available the optimum amount of air in concrete. Developed by The Master Builders Co. in 1933. Contains calcium lignosulfonate as the basic ingredient. Added to concrete mix at mixer.





Over 600 Leading Ready-Mixed Plants Are Producing Pozzolith Ready-Mixed Concrete

the MASTER BUILDERS Co.

CLEVELAND 3, OHIO — Subsidiary of American-Marietta Company — TORONTO, ONTARIO